Gene Screen

The invention relates to a screen for the identification of genes which show regulated expression in response to carbon source utilisation.

Colorectal cancer is a cancer which occurs in the large intestine and rectum. The colon can be divided into effectively four sections; the ascending colon; the transverse colon; the descending colon; and the sigmoid colon. Most colorectal cancers arise in the sigmoid colon and develop from "polyps" which can grow for several years before becoming cancerous. The early detection of these pre-cancerous growths is obviously desirable since removal of the polyps is a very effective means to stem the progress of disease.

There are various types of colorectal cancer. Most cancers of this type are adenocarcinomas which are malignant growths which begin in the epithelial cells which line the colon and rectum. Other cancers of the colon and rectum include gastrointestinal stromal tumours and lymphomas. In some examples the patient can be asymptomatic and for this reason it is important that screening is undertaken to identify those patients in which pre-cancerous polyps are forming. However, some patients do present with symptoms and these include rectal bleeding, diarrhoea, constipation, abdominal pain, and general weakness.

As mentioned above, regular screening is by far the most effective way of controlling this disease since removal of pre-cancerous polyps by surgery can effectively cure any disease before it is initiated. Currently, diagnostic tests include the use of colonoscopy, which allows a doctor to examine the rectum and colon; faecal blood analysis to check for any bleeding from the bowel and rectal area although this test is not directly diagnostic for cancerous lesion in its own right; and sigmoidoscopy which is similar to colonoscopy but only investigates the lower bowel area. Typically, patients with a family history of colorectal cancer can be expected to have

a colonoscopy every 5 years or so and a blood stool check on a yearly basis from about the age of 40.

The treatment of colorectal cancer usually involves invasive surgery to remove polyps and/or malignant growths. If the cancer has developed beyond the polyp stage then more extensive surgery is required which can result in removal of part of the bowel and surrounding lymph nodes. In the situation where a cancer necessitates extensive surgery a colostomy stoma may be required, at least for a period, to allow the bowel to recover from surgery. Surgery in the rectal region is more complicated and is largely dependent on how far the disease has progressed. In some cases the surgery can damage nerves which control sexual and urinary functions. In advanced stage colorectal cancers metastatic lesions may require removal and in about 15% of cases the lesions are in the liver which requires removal of large parts of the liver. The surgical removal of polyps and/or cancerous growths leads to a good prognosis for patients. In some cases surgery is followed by a course of chemotherapy (for colon cancer) and chemotherapy and radiation therapy (rectal cancer) to remove any cancer cells not detected during surgery. The chemotherapeutic agents typically used to treat colorectal cancer include 5-fluorouracil, leucovorin, irinotecan and capecitabine.

It is apparent that the early detection of cells which are pre-cancerous is highly desirable since in most cases surgery to remove these cells results in a very good prognosis for patients. Diagnostic tests which use the detection of cancer markers as an early indicator of cancer are known in the art.

For example, EP1355149 describes gene expression profiles from colorectal samples to provide a "finger print" expression profile as an indication of whether a patient is susceptible to the development of colorectal cancer or indeed if malignant growth has already been initiated. The disclosure in EP1355149 is directed to the use of microarrays to compare transformed and non-transformed tissue gene expression in a global sense.

WO02/059609 also describes a gene screen which utilises expression profiles in breast and colorectal cancer. A comparison is made between "normal" and "abnormal" samples in patients to provide a global picture of gene expression in these samples as an indicator of particular genes which are either over-expressed or abrogated between samples. Both EP1355149 and WO02/059609 take a shot gun approach to screening for target genes which can be used either as a diagnostic tool or as a target for the development of new chemotherapeutic agents.

The present invention provides a targeted screen for genes the expression of which may be altered in a response to carbon source. The invention makes use of the differences in expression profiles between normal and diseased tissue as a consequence of differences in metabolic state between cancer cells and normal cells due in part to carbon source utilisation by these respective cell types. The epithelial cells which line the colon and rectum metabolise butyrate as a carbon source for energy transduction via glycolysis. The main carbon source utilised by tumour cells is glucose. Consequently, expression profiles between these cell types are different due to the differences in carbon source metabolism.

We have identified a large number of potential markers of colorectal cancer which have utility with respect to the early diagnosis of disease and as targets for the development of novel chemotherapeutic agents. Moreover, this assay has broader applicability to conditions resulting from dysfunction of the bowel (e.g colitis, ulcerative colitis, diversion colitis. Crohn's disease and irritable bowel syndrome. In addition the assay provides a screening tool for fibre consumption and as an assay for colon microflora functionality (the effectiveness of fermentation of specific fibres) .

According to an aspect of the invention there is provided a method to screen for nucleic acid molecules which show altered expression in an isolated first cell sample comprising comparing the gene expression profiles between said first cell sample with a second reference cell sample wherein said first cell sample has been grown in

the presence of the carbon source butyrate, or a related carbon source from which butyrate is derived, either directly or indirectly, and comparing said expression profile with the expression profile in said second reference cell sample which has not been grown in the presence of butyrate, or said related carbon source.

According to a further aspect of the invention there is provided a method to screen for nucleic acid molecules which show altered expression in an isolated biological sample comprising the steps of:

i) providing

a) a cell growth preparation comprising a first cell sample derived from at least one region of the colon; cell growth media; and a carbon source wherein said carbon source is butyrate; and

b) a cell growth preparation comprising a second cell sample derived from an equivalent region of the colon; cell growth media; and a carbon source which is not butyrate;

ii) extracting nucleic acid from said first and second cell samples; and

iii) comparing the gene expression profile in said first cell sample with the gene expression profile in said second cell sample.

In a preferred method of the invention said first and second cell samples are derived from the ascending colon.

In an alternative preferred method of the invention said first and second cell samples are derived from the transverse colon.

In a further preferred method of the invention said first and second samples are derived from the descending colon.

In a still further preferred method of the invention said first and second samples are derived from the sigmoid region of the colon. Preferably said cell samples are derived from the rectal region of the colon.

In a further preferred method of the invention said first and second cell samples comprise epithelial cells.

In a preferred method of the invention said carbon source which is not butyrate is glucose.

In a still further preferred method of the invention said nucleic acid molecule which shows altered expression is selected from the group as represented by the nucleic acid sequences shown in Table 1, or nucleic acid molecules which hybridise to the sequences presented Table 1. Preferably said nucleic acid molecules hybridise under stringent hybridisation conditions.

According to a further aspect of the invention there is provided a method for the detection of at least one nucleic acid molecule associated with the initiation and/or progression of colorectal cancer, in an animal, comprising the steps of:

i) providing a biological sample comprising at least one cell to be tested;

ii) contacting said sample with a ligand which binds at least one nucleic acid molecule as represented by the nucleic acid sequence selected from the group consisting of:

a) a nucleic acid molecule as represented by the nucleic acid sequence as shown in Table 1;

b) a nucleic acid molecule which hybridises to nucleic acid molecules as defined in (a);

c) a nucleic acid molecule that is degenerate as a consequence of the genetic code to the nucleic acid molecule represented in (a) and (b);

iii) detecting the presence of at least one nucleic acid molecule in said sample.

In a preferred method of the invention said animal is human.

In a further preferred method of the invention said colorectal cancer is adenocarcinoma.

In a preferred method of the invention said ligand is a nucleic acid molecule adapted to anneal to said nucleic acid molecule which is indicative of colorectal cancer.

It will be apparent to the skilled person that a number of nucleic acid based assay systems are available which can be adapted to detect nucleic acid molecules as hereindisclosed. For example quantitative polymerase chain reaction assays, *in situ* hybridisation, northern blots.

According to a further aspect of the invention there is provided a method for the detection of at least one polypeptide associated with the initiation and/or progression of colorectal cancer, in an animal, comprising the steps of:

i) providing a biological sample comprising at least one cell to be tested;

ii) contacting said sample with at least one ligand which ligand specifically binds at least one polypeptide encoded by a nucleic acid molecule as represented by the nucleic acid sequence shown in Table 1, or a variant polypeptide comprising an amino acid sequence which varies by the addition, deletion or substitution of at least one amino acid residue; and

iii) detecting the presence of at least one polypeptide in said sample.

In a preferred method of the invention said animal is human.

In a further preferred embodiment of the invention said ligand is an antibody, preferably a monoclonal antibody, or at least the effective binding part thereof.

Methods which utilise antibodies to detect the presence of a polypeptide in a biological sample are well known in the art and include ELISA's, western blot and immunofluoresence.

According to a further aspect of the invention there is provided the use of at least one polypeptide, or variant sequence thereof, encoded by a nucleic acid molecule(s) as represented by the nucleic acid sequences as shown in Table 1, as a target for the screening of agents which modulate the activity of said polypeptide.

According to a yet further aspect of the invention there is provided a method to screen for agents which modulate the activity of at least one gene associated with the initiation and/or progression of colorectal cancer comprising the steps of:

i) forming a preparation comprising at least one polypeptide wherein said polypeptide is encoded by a nucleic acid molecule as represented by the nucleic acid sequence as shown in Table 1, or a variant polypeptide comprising an amino acid sequence which varies by the addition, deletion or substitution of at least one amino acid residue as represented by the amino acid sequences shown in Table 1, and at least one agent to be tested; and

ii) determining the activity of said agent with respect to activity of said polypeptide.

In a preferred method of the invention said polypeptide is expressed by a cell wherein said cell is transformed or transfected with said nucleic acid molecule. Preferably said nucleic acid molecule is part of a vector adapted for recombinant expression of said nucleic acid molecule. Preferably said vector is provided with a promoter which enables the expression of said nucleic acid molecule to be regulated.

In a preferred method of the invention said cell is derived from the colon, preferably said cell is an epithelial cell which lines said colon.

In a further preferred method of the invention said agent is an antibody, preferably a monoclonal antibody or modified antibody, or at least the effective binding part thereof.

Antibodies, also known as immunoglobulins, are protein molecules which usually have specificity for foreign molecules (antigens). Immunoglobulins (Ig) are a class of structurally related proteins consisting of two pairs of polypeptide chains, one pair of light (L) (low molecular weight) chain (κ or λ), and one pair of heavy (H) chains (γ, α, μ, δ and ε), all four linked together by disulphide bonds. Both H and L chains have regions that contribute to the binding of antigen and that are highly variable from one Ig molecule to another. In addition, H and L chains contain regions that are non-variable or constant.

The L chains consist of two domains. The carboxy-terminal domain is essentially identical among L chains of a given type and is referred to as the "constant" (C) region. The amino terminal domain varies from L chain to L chain and contributes to the binding site of the antibody. Because of its variability, it is referred to as the "variable" (V) region.

The H chains of Ig molecules are of several classes, α, μ, σ, α, and γ (of which there are several sub-classes). An assembled Ig molecule consisting of one or more units of two identical H and L chains, derives its name from the H chain that it possesses. Thus, there are five Ig isotypes: IgA, IgM, IgD, IgE and IgG (with four sub-classes based on the differences in the 'constant' regions of the H chains, i.e., IgG1, IgG2, IgG3 and IgG4). Further detail regarding antibody structure and their various functions can be found in, Using Antibodies: A laboratory manual, Cold Spring Harbour Laboratory Press.

In a preferred method of the invention said fragment is a Fab fragment.

In a further preferred method of the invention said antibody is selected from the group consisting of: $F(ab')_2$, Fab, Fv and Fd fragments; and antibodies comprising CDR3 regions.

Preferably said fragments are single chain antibody variable regions (scFV's) or domain antibodies. If a hybridoma exists for a specific monoclonal antibody it is well within the knowledge of the skilled person to isolate scFv's from mRNA extracted from said hybridoma via RT PCR. Alternatively, phage display screening can be undertaken to identify clones expressing scFv's. Domain antibodies are the smallest binding part of an antibody (approximately 13kDa). Examples of this technology is disclosed in US6, 248, 516, US6, 291, 158, US6,127, 197 and EP0368684 which are all incorporated by reference in their entirety.

A modified antibody, or variant antibody and reference antibody, may differ in amino acid sequence by one or more substitutions, additions, deletions, truncations which may be present in any combination. Among preferred variants are those that vary from a reference polypeptide by conservative amino acid substitutions. Such substitutions are those that substitute a given amino acid by another amino acid of like characteristics. The following non-limiting list of amino acids are considered conservative replacements (similar): a) alanine, serine, and threonine; b) glutamic acid and asparatic acid; c) asparagine and glutamine d) arginine and lysine; e) isoleucine, leucine, methionine and valine and f) phenylalanine, tyrosine and tryptophan. Most highly preferred are variants which show enhanced biological activity.

Preferably said antibody is a humanised or chimeric antibody.

A chimeric antibody is produced by recombinant methods to contain the variable region of an antibody with an invariant or constant region of a human antibody.

A humanised antibody is produced by recombinant methods to combine the complementarity determining regions (CDRs) of an antibody with both the constant (C) regions and the framework regions from the variable (V) regions of a human antibody.

Chimeric antibodies are recombinant antibodies in which all of the V-regions of a mouse or rat antibody are combined with human antibody C-regions. Humanised antibodies are recombinant hybrid antibodies which fuse the complimentarity determining regions from a rodent antibody V-region with the framework regions from the human antibody V-regions. The C-regions from the human antibody are also used. The complimentarity determining regions (CDRs) are the regions within the N-terminal domain of both the heavy and light chain of the antibody to where the majority of the variation of the V-region is restricted. These regions form loops at the surface of the antibody molecule. These loops provide the binding surface between the antibody and antigen.

Antibodies from non-human animals provoke an immune response to the foreign antibody and its removal from the circulation. Both chimeric and humanised antibodies have reduced antigenicity when injected to a human subject because there is a reduced amount of rodent (i.e. foreign) antibody within the recombinant hybrid antibody, while the human antibody regions do not elicit an immune response. This results in a weaker immune response and a decrease in the clearance of the antibody. This is clearly desirable when using therapeutic antibodies in the treatment of human diseases. Humanised antibodies are designed to have less "foreign" antibody regions and are therefore thought to be less immunogenic than chimeric antibodies.

In an alternative preferred method of the invention said agent is a polypeptide or a peptide. Preferably said polypeptide or peptide is modified.

In a preferred method of the invention said peptide is at least 6 amino acid residues in length. Preferaby the length of said peptide/polypeptide is selected from the group

consisting of: at least 7 amino acid residues; 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, or 20 amino acid residues in length. Alternatively the length of said peptide/polypeptide is at least 20 amino acid residues; 30; 40; 50; 60; 70; 80; 90; or 100 amino acid residues in length.

It will be apparent to one skilled in the art that modification to the amino acid sequence of peptide agents could enhance the binding and/or stability of the peptide with respect to its target sequence. In addition, modification of the peptide may also increase the *in vivo* stability of the peptide thereby reducing the effective amount of peptide necessary to inhibit the activity of a target polypeptide. This would advantageously reduce undesirable side effects which may result *in vivo*. Alternatively or preferably, said modification includes the use of modified amino acids in the production of recombinant or synthetic forms of peptides. It will be apparent to one skilled in the art that modified amino acids include, by way of example and not by way of limitation, 4-hydroxyproline, 5-hydroxylysine, N^6-acetyllysine, N^6-methyllysine, N^6,N^6-dimethyllysine, N^6,N^6,N^6-trimethyllysine, cyclohexyalanine, D-amino acids, ornithine. Other modifications include amino acids with a C_2, C_3 or C_4 alkyl R group optionally substituted by 1, 2 or 3 substituents selected from halo (e.g. F, Br, I), hydroxy or C_1-C_4 alkoxy. Modifications also include, by example and not by way of limitation, acetylation and amidation.

In a preferred embodiment of the invention said peptide sequence is acetylated. Preferably said acetylation is to the amino terminus of said peptide.

In a further preferred embodiment of the invention said peptide sequence is amidated. Preferably said amidation is to the carboxyl-terminus of said peptide.

It will also be apparent to one skilled in the art that peptides could be modified by cyclisation. Cyclisation is known in the art, (see Scott *et al* Chem Biol (2001), 8:801-815; Gellerman et al J. Peptide Res (2001), 57: 277-291; Dutta *et al* J. Peptide

Res (2000), 8: 398-412; Ngoka and Gross J Amer Soc Mass Spec (1999), 10:360-363.

In a further preferred method of the invention said agent is nucleic acid molecule. Preferably said nucleic acid molecule is an aptamer or a modified aptamer. In an alternative preferred method of the invention said nucleic acid is an inhibitory RNA (RNAi) molecule. Alternatively said nucleic acid molecule is an antisense nucleic acid molecule.

Nucleic acids have both linear sequence structure and a three dimensional structure which in part is determined by the linear sequence and also the environment in which these molecules are located. Conventional therapeutic molecules are small molecules, for example, peptides, polypeptides, or antibodies, which bind target molecules to produce an agonistic or antagonistic effect. It has become apparent that nucleic acid molecules also have potential with respect to providing agents with the requisite binding properties which may have therapeutic utility. These nucleic acid molecules are typically referred to as aptamers. Aptamers are small, usually stablised, nucleic acid molecules which comprise a binding domain for a target molecule. A screening method to identify aptamers is described in US 5,270,163, which is incorporated by reference. Aptamers are typically oligonucleotides which may be single stranded oligodeoxynucleotides, oligoribonucleotides, or modified oligodeoxynucleotide or oligoribonucleotides.

The term "modified" encompasses nucleotides with a covalently modified base and/or sugar. For example, modified nucleotides include nucleotides having sugars which are covalently attached to low molecular weight organic groups other than a hydroxyl group at the 3' position and other than a phosphate group at the 5' position. Thus modified nucleotides may also include 2' substituted sugars such as 2'-O-methyl-; 2-O-alkyl; 2-O-allyl; 2'-S-alkyl; 2'-S-allyl; 2'- fluoro-; 2'-halo or 2;azido-ribose, carbocyclic sugar analogues a-anomeric sugars; epimeric sugars such as arabinose, xyloses or lyxoses, pyranose sugars, furanose sugars, and sedoheptulose.

Modified nucleotides are known in the art and include by example and not by way of limitation; alkylated purines and/or pyrimidines; acylated purines and/or pyrimidines; or other heterocycles. These classes of pyrimidines and purines are known in the art and include, pseudoisocytosine; N4, N4-ethanocytosine; 8-hydroxy-N6-methyladenine; 4-acetylcytosine, 5-(carboxyhydroxylmethyl) uracil; 5-fluorouracil; 5-bromouracil; 5-carboxymethylaminomethyl-2-thiouracil; 5-carboxymethylaminomethyl uracil; dihydrouracil; inosine; N6-isopentyl-adenine; 1-methyladenine; 1-methylpseudouracil; 1-methylguanine; 2,2-dimethylguanine; 2-methyladenine; 2-methylguanine; 3-methylcytosine; 5-methylcytosine; N6-methyladenine; 7-methylguanine; 5- methylaminomethyl uracil; 5-methoxy amino methyl-2-thiouracil; β-D-mannosylqueosine; 5-methoxycarbonylmethyluracil; 5-methoxyuracil; 2 methylthio-N6-isopentenyladenine; uracil-5-oxyacetic acid methyl ester; psueouracil; 2-thiocytosine; 5-methyl-2 thiouracil, 2-thiouracil; 4-thiouracil; 5-methyluracil; N-uracil-5-oxyacetic acid methylester; uracil 5—oxyacetic acid; queosine; 2-thiocytosine; 5-propyluracil; 5-propylcytosine; 5-ethyluracil; 5-ethylcytosine; 5-butyluracil; 5-pentyluracil; 5-pentylcytosine; and 2,6,-diaminopurine; methylpsuedouracil; 1-methylguanine; 1-methylcytosine.

The aptamers of the invention are synthesized using conventional phosphodiester linked nucleotides and synthesized using standard solid or solution phase synthesis techniques which are known in the art. Linkages between nucleotides may use alternative linking molecules. For example, linking groups of the formula P(O)S, (thioate); P(S)S, (dithioate); P(O)NR'2; P(O)R'; P(O)OR6; CO; or CONR'2 wherein R is H (or a salt) or alkyl (1-12C) and R6 is alkyl (1-9C) is joined to adjacent nucleotides through –O- or –S-. The binding of aptamers to a target polypeptide is readily testable.

An alternative nucleic acid molecule is a so called RNAi molecule. A recent technique to specifically ablate gene function is through the introduction of double stranded RNA, also referred to as inhibitory RNA (RNAi), into a cell which results

in the destruction of mRNA complementary to the sequence included in the RNAi molecule. The RNAi molecule comprises two complementary strands of RNA (a sense strand and an antisense strand) annealed to each other to form a double stranded RNA molecule. The RNAi molecule is typically derived from exonic or coding sequence of the gene which is to be ablated. Recent studies suggest that RNAi molecules ranging from 100-1000bp derived from coding sequence are effective inhibitors of gene expression. Surprisingly, only a few molecules of RNAi are required to block gene expression which implies the mechanism is catalytic. The site of action appears to be nuclear as little if any RNAi is detectable in the cytoplasm of cells indicating that RNAi exerts its effect during mRNA synthesis or processing.

In a preferred method of the invention there is provided a cassette comprising a nucleic acid molecule, or part thereof, wherein said molecule is selected from the group consisting of:

i) a nucleic acid molecule represented by the nucleic acid sequence shown in Table 1 ;

ii) a nucleic acid molecule which hybridises to the sequence in (i) above and which encodes a polypeptide which initiates or promotes transformation of colon cells; or

iii) a nucleic acid molecule which is degenerate because of the genetic code to the sequences defined in (i) and (ii) above, wherein said cassette is adapted such that both sense and antisense nucleic acid molecules are transcribed from said cassette.

In a preferred method of the invention said cassette is provided with at least two promoters adapted to transcribe both sense and antisense strands of said nucleic acid molecule.

In a further preferred method of the invention said cassette comprises a nucleic acid molecule wherein said molecule comprises a first part linked to a second part wherein said first and second parts are complementary over at least part of their

sequence and further wherein transcription of said nucleic acid molecule produces an RNA molecule which forms a double stranded region by complementary base pairing of said first and second parts.

In a preferred embodiment of the invention said first and second parts are linked by at least one nucleotide base.

In a preferred embodiment of the invention said first and second parts are linked by 2, 3, 4, 5, 6, 7, 8, 9 or at least 10 nucleotide bases.

In a further preferred embodiment of the invention the length of the RNAi molecule is between 100bp-1000bp. More preferably still the length of RNAi is selected from 100bp; 200bp; 300bp; 400bp; 500bp; 600bp; 700bp; 800bp; 900bp; or 1000bp. More preferably still said RNAi is at least 1000bp.

In an alternative preferred method of the invention the RNAi molecule is between 15bp and 25bp, preferably said molecule is 21bp. Preferably said cassette is part of a vector.

According to a further aspect of the invention there is provided an antibody identified by the method according to the invention for use as a pharmaceutical.

According to a further aspect of the invention there is provided a polypeptide or peptide identified by the method according to the invention for use as a pharmaceutical.

According to a further aspect of the invention there is provided a nucleic acid molecule identified by the method according to the invention for use as a pharmaceutical.

In a preferred embodiment of the invention said nucleic acid molecule is an aptamer.

In an alternative preferred embodiment of the invention said nucleic acid molecule is an inhibitory RNA.

In a further alternative preferred embodiment of the invention said nucleic acid molecule is an antisense nucleic acid molecule.

In a preferred embodiment of the invention said pharmaceutical further comprises a a diluent, carrier or excipient.

When administered, the therapeutic compositions of the present invention are administered in pharmaceutically acceptable preparations. Such preparations may routinely contain pharmaceutically acceptable concentrations of salt, buffering agents, preservatives, compatible carriers, supplementary immune potentiating agents such as adjuvants and cytokines and optionally other therapeutic agents, such as chemotherapeutic agents.

The therapeutics of the invention can be administered by any conventional route, including injection or by gradual infusion over time. The administration may, for example, be oral, intravenous, intraperitoneal, intramuscular, intracavity, subcutaneous, or transdermal. When antibodies are used therapeutically, a preferred route of administration is by pulmonary aerosol. Techniques for preparing aerosol delivery systems containing antibodies are well known to those of skill in the art. Generally, such systems should utilize components which will not significantly impair the biological properties of the antibodies, such as the paratope binding capacity (see, for example, Sciarra and Cutie, "Aerosols," in Remington's Pharmaceutical Sciences, 18th edition, 1990, pp 1694-1712; incorporated by reference). Those of skill in the art can readily determine the various parameters and conditions for producing antibody aerosols without resort to undue experimentation. When using antisense preparations of the invention, slow intravenous administration is preferred.

The compositions of the invention are administered in effective amounts. An "effective amount" is that amount of a composition that alone, or together with further doses, produces the desired response. In the case of treating a particular disease, such as cancer, the desired response is inhibiting the progression of the disease. This may involve only slowing the progression of the disease temporarily, although more preferably, it involves halting the progression of the disease permanently. This can be monitored by routine methods or can be monitored according to diagnostic methods of the invention discussed herein.

Such amounts will depend, of course, on the particular condition being treated, the severity of the condition, the individual patient parameters including age, physical condition, size and weight, the duration of the treatment, the nature of concurrent therapy (if any), the specific route of administration and like factors within the knowledge and expertise of the health practitioner. These factors are well known to those of ordinary skill in the art and can be addressed with no more than routine experimentation. It is generally preferred that a maximum dose of the individual components or combinations thereof be used, that is, the highest safe dose according to sound medical judgment. It will be understood by those of ordinary skill in the art, however, that a patient may insist upon a lower dose or tolerable dose for medical reasons, psychological reasons or for virtually any other reasons.

The pharmaceutical compositions used in the foregoing methods preferably are sterile and contain an effective amount for producing the desired response in a unit of weight or volume suitable for administration to a patient. The response can, for example, be determined by measuring the physiological effects of the composition, such as regression of a tumour, decrease of disease symptoms, modulation of apoptosis, etc.

The doses of pharmaceutical agent administered to a subject can be chosen in accordance with different parameters, in particular in accordance with the mode of

administration used and the state of the subject. Other factors include the desired period of treatment. In the event that a response in a subject is insufficient at the initial doses applied, higher doses (or effectively higher doses by a different, more localized delivery route) may be employed to the extent that patient tolerance permits.

In general, doses of pharmaceutical are formulated and administered in doses between 1 ng and about 500mg, and between 10 ng and 100mg, according to any standard procedure in the art. Where nucleic acids are employed, doses of between 1 ng and 0.1mg generally will be formulated and administered according to standard procedures. Other protocols for the administration of compositions will be known to one of ordinary skill in the art, in which the dose amount, schedule of injections, sites of injections, mode of administration (e.g., intra-tumoral) and the like vary from the foregoing. Administration of pharmaceutical compositions to mammals other than humans, e.g. for testing purposes or veterinary therapeutic purposes, is carried out under substantially the same conditions as described above. A subject, as used herein, is a mammal, preferably a human, and including a non-human primate, cow, horse, pig, sheep, goat, dog, cat or rodent.

When administered, the pharmaceutical preparations of the invention are applied in pharmaceutically-acceptable amounts and in pharmaceutically-acceptable compositions. The term "pharmaceutically acceptable" means a non-toxic material that does not interfere with the effectiveness of the biological activity of the active ingredients. Such preparations may routinely contain salts, buffering agents, preservatives, compatible carriers, and optionally other therapeutic agents. When used in medicine, the salts should be pharmaceutically acceptable, but non-pharmaceutically acceptable salts may conveniently be used to prepare pharmaceutically-acceptable salts thereof and are not excluded from the scope of the invention. Such pharmacologically and pharmaceutically-acceptable salts include, but are not limited to, those prepared from the following acids: hydrochloric, hydrobromic, sulfuric, nitric, phosphoric, maleic, acetic, salicylic, citric, formic,

malonic, succinic, and the like. Also, pharmaceutically-acceptable salts can be prepared as alkaline metal or alkaline earth salts, such as sodium, potassium or calcium salts.

Pharmaceutcial compositions may be combined, if desired, with a pharmaceutically-acceptable carrier. The term "pharmaceutically-acceptable carrier" as used herein means one or more compatible solid or liquid fillers, diluents or encapsulating substances which are suitable for administration into a human. The term "carrier" denotes an organic or inorganic ingredient, natural or synthetic, with which the active ingredient is combined to facilitate the application. The components of the pharmaceutical compositions also are capable of being co-mingled with the molecules of the present invention, and with each other, in a manner such that there is no interaction which would substantially impair the desired pharmaceutical efficacy.

The pharmaceutical compositions may contain suitable buffering agents, including: acetic acid in a salt; citric acid in a salt; boric acid in a salt; and phosphoric acid in a salt.

The pharmaceutical compositions also may contain, optionally, suitable preservatives, such as: benzalkonium chloride; chlorobutanol; parabens and thimerosal.

The pharmaceutical compositions may conveniently be presented in unit dosage form and may be prepared by any of the methods well-known in the art of pharmacy. All methods include the step of bringing the active agent into association with a carrier which constitutes one or more accessory ingredients. In general, the compositions are prepared by uniformly and intimately bringing the active compound into association with a liquid carrier, a finely divided solid carrier, or both, and then, if necessary, shaping the product.

Compositions suitable for oral administration may be presented as discrete units, such as capsules, tablets, lozenges, each containing a predetermined amount of the active compound. Other compositions include suspensions in aqueous liquids or non-aqueous liquids such as a syrup, elixir or an emulsion.

Compositions suitable for parenteral administration conveniently comprise a sterile aqueous or non-aqueous preparation of pharmaceutical agents, which is preferably isotonic with the blood of the recipient. This preparation may be formulated according to known methods using suitable dispersing or wetting agents and suspending agents. The sterile injectable preparation also may be a sterile injectable solution or suspension in a non-toxic parenterally-acceptable diluent or solvent, for example, as a solution in 1,3-butane diol. Among the acceptable vehicles and solvents that may be employed are water, Ringer's solution, and isotonic sodium chloride solution. In addition, sterile, fixed oils are conventionally employed as a solvent or suspending medium. For this purpose any bland fixed oil may be employed including synthetic mono-or di-glycerides. In addition, fatty acids such as oleic acid may be used in the preparation of injectables. Carrier formulation suitable for oral, subcutaneous, intravenous, intramuscular, etc. administrations can be found in Remington's Pharmaceutical Sciences, Mack Publishing Co., Easton, PA.

An embodiment of the invention will now be described by example only and with reference to the following Figures and Tables;

Figure 1 illustrates a concentration-response of cells growing in butyrate as sole carbon source. This is the summary of four independent repeat experiments. Legend shows butyrate concentrations in mM;

Figure 2 illustrates the purity and quality of RNA preparation. The 28S and 18S sample bands are tight and clearly resolved for RNA prepared from butyrate- and glucose-grown cells. Little or no DNA or salt contamination appears in the samples;

Table1 illustrates nucleic acid sequences identified by the screening method according to the invention; and

Table 2 illustrates a summary of expression data of nucleic acid sequences identified in Table 1.

Materials and Methods

We have compared the expression profiles of colon cells growing in either glucose or butyrate as a carbon source. HT 29 colon carcinoma cells were cultured in DMEM medium (Gibco) in the presence of 10% foetal calf serum, penicillin and streptomycin. Cells were either cultured in glucose alone as the sole carbon source, or in butyrate as the sole extraneous provided carbon source. Empirical analysis of HT29 cells grown in multiple butyrate concentrations revealed that 2mM butyrate was optimal for cell culture in the absence of glucose. Cells were cultured in either medium for multiple passages (typically 4). RNA was extracted from cells grown in each condition and used to probe an Affymetrix human 12k array. The expression profile of cells cultured in each condition was compared and genes altered in expression by more than 2 fold are listed in Table 2.

Materials used during this study

ITEM	ITEM - SPECIFICS	SUPPLIER
Glucose medium (1)	Dulbecco's Modified Eagle Medium 25 mM HEPES 1 x 0.1 micron filtered with sodium pyruvate, with 1000	GIBCO

	mg/l glucose with pyridoxine + FCS + p/s (500 ml)	
Butyrate medium (2) 0.2 mM NaB medium	Dulbecco's Modified Eagle Medium 1 x 0.1 micron filtered with L-glutamine without glucose, without sodium pyruvate + NaB (1M) 110 µl + FCS + p/s (555.1 ml)	GIBCO
Butyrate medium (3) 2 mM NaB medium	Dulbecco's Modified Eagle Medium 1 x 0.1 micron filtered with L-glutamine without glucose, without sodium pyruvate + NaB (1M) 1100 µl + FCS + p/s (556.1 ml)	GIBCO
Medium without glucose and without butyrate (4)	Dulbecco's Modified Eagle Medium 1 x 0.1 micron filtered with L-glutamine without glucose, without sodium pyruvate + FCS + p/s (550 ml)	GIBCO
NaB stock	Sodium Butyrate powder dissolved in sterile water 250 mg in 2.27 ml water	Sigma

	(1M) 0.2 μm filter sterilised	
Sterile syringes	5 ml	Becton Dickinson UK, Ltd
Sterilising filters	0.2 μm Acrodisc	Gelman Sciences, Ltd
Item	**Item specifics**	**Supplier**
FCS	Foetal Calf Serum 50 ml per 500 ml DMEM	Harlan Sera Lab
P/S	Penicillin – Streptomycin solution 100ml bottle (100 X) – 5 ml per 500 ml DMEM	Sigma
TE for splitting cells	Trypsin Enzyme – 100 ml bottle - 3 ml per T75 and 1 ml per 6 well plate well	Sigma
FCS tubes	50 ml Centrifuge tubes	Corning Inc
P/S + TE tubes	30 ml Universal containers	Bibby Sterilin Ltd
Tissue Culture Plates	6 well sterile with lid single packed	Greiner bio-one
Tissue Culture Flasks	T 75	Nunclon
Stripette ® 5ml, 10ml,	Serological Pipette,	Corning Inc / Costar

25 ml	individually wrapped	
Pipette	Powerpette plus	Jencons
Cell Counting Slide	Haemocytometer, improved Neubauer	Neubauer
Ethanol for tissue culture	70 % EtOH	Sigma
Virkon for cell culture	1 % Virkon	Day Impex, Ltd
Microscope for cell work	Light 6 – 10X	CK Olympus, Tokyo
Paper towels	Blue	Jamont (UK), Ltd
Latex-free examination gloves	Large	Shermond Surgical Supply, Ltd
Item	**Item specifics**	**Supplier**
RNA extraction reagent	TRIzol ® Reagent	Invitrogen – Life technologies
RNA extraction reagent	Chloroform	Sigma
RNA extraction reagent	Isopropyl alcohol	Sigma

RNA extraction reagent	75% EtOH in DEPC-treated water	Sigma
RNA extraction reagent	Rnase-free water	Sigma
RNA clean up kit	Rneasy Midi Kit (10 RNeasy midi spin columns)	Qiagen
β- Mercaptoethanol	14.3 M stock solution	Sigma
Ethanol for Qiagen	96-100% EtOH	Sigma
Agarose	1g in 100 ml TB-EDTA-Buffer	Helena Biosciences, UK
TB-EDTA- Buffer	Tris-Borate-EDTA buffer 100ml	Sigma
Eppendorf tubes	1.5 ml	Sarstedt Laboratory supplies, Ltd
Loading buffer	6 X	Promega

The Human Colon Carcinoma Cell Line - HT29

The HT29 cell line is established from a colon adenocarcinoma which was removed from a 44 year old Caucasian woman. The cell line is epithelial in origin and hypertriploid. It has been shown to be tumourigenic in nude mice and synthesizes Carcino embryonic antigen - CEA (Egan & Todd, 1972) and the Transforming

growth factors - TGF-α and TGF-β (Anzano *et al.* 1989) when maintained *in vitro*. The HT29 cell line constitutively over-produces mutant p53 protein as a consequence of a point mutation at codon 273, resulting in an Arginine to Histidine amino acid substitution (Hsu *et al.* 1994).

The Culture of HT29 Colorectal adenocarcinoma cells

Cells were cultured in T75 tissue culture flasks (Nunclon) in 5% CO_2 at 37°C. Cells were passaged when confluent by washing twice in PBS and incubating in pre-warmed trypsin : EDTA (1:1) at 37°C until cells detached. The cells were then re-suspended in the appropriate growth medium, either glucose DMEM or butyrate DMEM before being seeded into new T75 tissue culture flasks or 6-well plates.

Optimisation of HT29 cell growth in butyrate as sole extraneous carbon source

HT29 cells were seeded out into 19 wells (in 6 well plates) at a cell density of 0.5 x 10^6 cells per well (i.e. 500 000 cells per well) deduced with the aid of a Haemocytometer (Improved Neubauer). These cells were taken from T75 - 0.2 mM butyrate (NaB) DMEM flasks and allowed to adhere to the 6-well plates over 72 hrs also in 0.2 mM NaB DMEM with FCS and Penicillin / Streptomycin antibiotics. After the cells had adhered to the surface of the 6 well plates the 0.2 mM NaB DMEM was removed and each well was washed twice with PBS in order to remove all traces of the 0.2 mM DMEM, then different concentrations of NaB DMEM with FCS and with Penicillin / Streptomycin antibiotics were added to the appropriate wells in triplicate. Cell counts were taken at various time points. Specific media was changed daily in order to maintain the appropriate / desired NaB concentrations per well. All solutions / reagents used were pre-warmed in a water bath prior to use so as to avoid any cold shock to the cells.

RNA extraction using TRIzol® Reagent

Total RNA was extracted from HT29 cells grown to confluence in T75 flasks using TRIzol Reagent as per manufacturer's recommendations. Cells were grown for several passages either in butyrate-containing medium, or in glucose-containing medium prior to extraction of RNA

Cells were homogenised using 1 ml TRIzol Reagent per 10 cm^2 area of culture surface. The homogenised samples were incubated for 5 minutes at at ambient temperature to permit the complete dissociation of nucleoprotein complexes. 200μl of chloroform was added to each sample. Tubes were shaken vigorously by hand for 15 seconds and incubated at ambient temperature for 3 minutes. Samples were centrifuged at 12000g for 15 minutes at 4oC. RNA in the aqueous phase was separated and precipitated using isopropyl alcohol. RNA was rinsed, air dried and redissolved in RNase-free water.

RNA was further purified using Qiagen RNeasy columns. The columns were used exactly as per manufacturer's recommendations. RNA was eluted into RNase-free water.

RNA purified in this way was analysed by agarose gel to establish purity and quality. The gel is shown in figure 2.

Microarray analysis

Microarray analysis was undertaken as a commercial service by the University of Newcastle-upon-Tyne. In this study, the 2 RNA samples (1x butyrate + 1x glucose) from the 2 experimental conditions (butyrate + glucose) were sent to the Institute for Human Genetics at the University of Newcastle-upon-Tyne for microarray analysis. This was performed on a 12 k Affymetrix *Homo sapiens* gene chip. Genes altered in expression by more than 2 fold on the microarray are listed in table 1.

Table 1

Human mitochondrial ADP/ADT translocator mRNA, complete cds.

```
ccccctagcg tcgcgcaggg tcggggactg cgcgcggtgc caggccgggc gtgggcgaga      60
gcacgaacgg gctgctgcgg gctgagagcg tcgagctgtc accatgggtg atcacgcttg     120
gagcttccta aaggacttcc tggccggggc ggtcgccgct gccgtctcca agaccgcggt     180
cgcccccatc gagagggtca aactgctgct gcaggtccag catgccagca aacagatcag     240
tgctgagaag cagtacaaag ggatcattga ttgtgtggtg agaatcccta aggagcaggg     300
cttcctctcc ttctggaggg gtaacctggc caacgtgatc cgttacttcc ccacccaagc     360
tctcaacttc gccttcaagg acaagtacaa gcagctcttc ttaggggtg tggatcggca      420
taagcagttc tggcgctact ttgctggtaa cctggcgtcc ggtggggccg ctggggccac     480
ctccctttgc tttgtctacc cgctggactt tgctaggacc aggttggctg ctgatgtggg     540
caggcgcgcc cagcgtgagt tccatggtct gggcgactgt atcatcaaga tcttcaagtc     600
tgatggcctg agggggctct accagggttt caacgtctct gtccaaggca tcattatcta     660
tagagctgcc tacttcggag tctatgatac tgccaagggg atgctgcctg accccaagaa     720
cgtgcacatt tttgtgagct ggatgattgc ccagagtgtg acggcagtcg cagggctgct     780
gtcctacccc tttgacactg ttcgtcgtag aatgatgatg cagtccggcc ggaaaggggc     840
cgatattatg tacacgggga cagttgactg ctggaggaag attgcaaaag acgaaggagc     900
caaggccttc ttcaaaggtg cctggtccaa tgtgctgaga ggcatgggcg gtgcttttgt     960
attggtgttg tatgatgaga tcaaaaaata tgtctaatgt aattaaaaca caagttcaca    1020
gatttacatg aacttgatct acaagttcac agatccattg tgtggtttaa tagactattc    1080
ctaggggaag taaaaagatc tgggataaaa ccagactgaa aggaatacct cagaagagat    1140
gcttcattga gtgttcatta aaccacacat gtattttgta tttattttac atttaaattc    1200
ccacagcaaa tagaaataat ttatcatact tgtacaatta actgaagaat tgataataac    1260
tgaatgtgaa acatcaataa agaccactta atgcacaaaa aaaaaaaaaa aaaaaaaaaa    1320
```

Homo sapiens mRNA for VNN1 protein

```
cattggactt cagcatgact actcagttgc cagcttacgt ggcaattttg cttttctatg      60
tctcaagagc cagctgccag gacactttca ttgcagctgt ttatgagcat gcagcgatat     120
tgcccaatgc caccctaaca ccagtgtctc gtgaggaggc tttggcatta atgaatcgga     180
atctggacat tttggaagga gcgatcacat cagcagcaga tcagggtgcg catattattg     240
tgactccaga agatgctatt tatggctgga acttcaacag ggactctctc tacccatatt     300
tggaggacat cccagaccct gaagtaaact ggatcccctg taataatcgt aacagatttg     360
gccagacccc agtacaagaa agactcagct gcctggccaa gaacaactct atctatgttg     420
tggcaaatat tggggacaag aagccatgcg ataccagtga tcctcagtgt ccccctgatg     480
gccgttacca atacaacact gatgtggtat ttgattctca aggaaaactg gtggcacgct     540
accataagca aaacctttc atgggtgaaa atcaattcaa tgtacccaag gagcctgaga     600
ttgtgacttt caataccacc tttggaagtt ttggcatttt cacatgcttt gatatactct     660
tccatgatcc tgctgttacc ttggtgaaag atttccacgt ggacaccata gtattcccaa     720
cagcttggat gaatgttttg ccacatttgt cagctgttga attccactca gcttgggcta     780
tgggcatgag ggtcaatttc cttgcatcca acatacatta cccctcaaag aaaatgacag     840
gaagtggcat ctatgcaccc aattcttcaa gagcatttca ttatgatatg aagacagaag     900
agggaaaact cctcctctcg caactggatt cccacccatc ccattctgca gtggtgaact     960
ggacttccta tgccagcagt atagaagcgc tctcatcagg aaacaaggaa tttaaaggca    1020
ctgtcttttt cgatgaattc acttttgtga agctcacagg agttgcagga aattatacag    1080
tttgtcagaa agatctctgc tgtcatttaa gctacaaaat gtctgagaac ataccaaatg    1140
aagtgtacgc tctaggggca tttgacggac tgcacactgt ggaagggcgc tattatctac    1200
agatttgtac cctgttgaaa tgtaaaacga ctaatttaaa cacttgcggt gactcagctg    1260
aaacagcttc taccaggttt gaaatgttct ccctcagtgg cactttcgga acccagtatg    1320
tctttcctga ggtgttgctg agtgaaaatc agcttgcacc tggagaattt caggtgtcaa    1380
ctgacggacg cttgtttagt ctgaagccaa catccggacc tgtcttaaca gtaactctgt    1440
ttgggaggtt gtatgagaag gactgggcat caaatgcttc atcaggcctc acagcacaag    1500
caagaataat aatgctaata gttatagcac ctattgtatg ctcattaagt tggtagaata    1560
ttgacttttt ctctttttta tttgggataa tttaaaaaat gatggatgag aaaagaaaga    1620
ttggtccggg ttaatattat cctctagtat aagtgaatta ctagtttctc tttatttaga    1680
caaacacaca cacaccagat aatataaact taataaatta tctgttaatg tagattttat    1740
ttaaaaaact atatttgaac attggtcttt cttggacgtg agctaattat atcaaataag    1800
tatcacaaat cttttacgca gaagaaataa aaactacggg tagaaaacat aagaactatc    1860
ataaaattta cttacaagga ggctgctctt gttaccactt ttattatatt acgtatcact    1920
tattcagctc tgctgaaaat ttccaatgac tttgtttgtt tgctctttta gtttttacc     1980
taaacaatac attttgattc tcttgtgggt tgataatgtc tccccaaaat ttacatgttg    2040
aagcacctca gaatgtgact gtatttggag acagggtctt taaagaggta aaataaggtc    2100
attaggatag accctaattc aatatgactg atgatcataa aagaagaggc gagtagggca    2160
caacaggcac aaagggagac cataaggaga cacagaggaa ggacaactct ttacaagcta    2220
agaagagagg gcctcagaag aaaccaaccc tgccaacacc ttgatcttgg acttccagcc    2280
tccaaaacta tgagaaataa atttctattg tttaagtcac ccagtccatg gtactttgtt    2340
aggcagccct ggcaaatgaa tcaaagaccc attcctgttc ctctccccac cactactgtt    2400
ttctactgta atctgaagct tcaacaaaag gcttacctgg taagaatatt cagctggtct    2460
gggtcctcaa gactccaata gacactctta aagaaggatt gctgatggat tgatagtgaa    2520
accattagat cattgaattc ctctggaatt agaaaaccag agagtcccat tttaagaaat    2580
tagatattta atatagcatt gtgtgttcta ttttagtaac agcagaatct cttgacatta    2640
cacaactcag tgaaacaaca tcatttaagc caaaatatct cccaactgac tgatagactc    2700
tgagcactaa tatcatagtg ctgtgatgat ggacaattac atagtaccga taacagccat    2760
gcactgtgca aagcatgccc ttctgcacag gagagcaagg cacttgcagt agtgatctat    2820
gccagcaaaa catcattttg agacaaacat ttttgtggca gatgtttttc ctaaaaagta    2880
ctatatcatc caagaaatat ttgagtaaaa tcccttgttc ttttgggtga cattaactga    2940
catttgcttt ttttcaagac ctaatagaaa ataagaaagc ccataatgta tttagaaaca    3000
ggaatcctca gagcaattct ctgtattctc atataatttc aatgtaaaac agaaaacata    3060
ttgatgtgtt ggtgataggc ttgaattatt aaaaacttca aaaacaaaa                3109
```

Homo sapiens transmembrane protein 5, mRNA

ggctgggcct gcctcggacg ccgccggtgt cgcggattct ctttccgccc gctccatggc 60
ggtggatgcc tgactggaag cccgagtggg atgcggctga cgcggaagcg gctctgctcg 120
tttcttatcg ccctgtactg cctattctcc ctctacgctg cctaccacgt cttcttcggg 180
cgccgccgcc aggcgccggc cgggtccccg cggggcctca ggaaggggc ggcccccgcg 240
cgggagagac gcggccgaga acagtccact ttggaaagtg aagaatggaa tccttgggaa 300
ggagatgaaa aaaatgagca acaacacaga tttaaaacta gccttcaaat attagataaa 360
tccacgaaag gaaaaacaga tctcagtgta caaatctggg gcaaagctgc cattggcttg 420
tatctctggg agcatatttt tgaaggctta cttgatccca gcgatgtgac tgctcaatgg 480
agagaaggaa agtcaatcgt aggaagaaca cagtacagct tcatcactgg tccagctgta 540
ataccagggt acttctccgt tgatgtgaat aatgtggtac tcattttaaa tggaagagaa 600
aaagcaaaga tcttttatgc cacccagtgg ttactttatg cacaaaattt agtgcaaatt 660
caaaaactcc agcatcttgc tgttgttttg ctcggaaatg aacattgtga taatgagtgg 720
ataaacccat tcctcaaaag aaatggaggc ttcgtggagc tgcttttcat aatatatgac 780
agcccctgga ttaatgacgt ggatgttttt cagtggcctt taggagtagc aacatacagg 840
aattttcctg tggtggaggc aagttggtca atgctgcatg atgagaggcc atatttatgt 900
aatttcttag gaacgattta tgaaaattca tccagacagg cactaatgaa cattttgaaa 960
aaagatggga acgataagct ttgttgggtt tcagcaagag aacactggca gcctcaggaa 1020
acaaatgaaa gtcttaagaa ttaccaagat gccttgcttc agagtgatct cacattgtgc 1080
ccggtcggag taaacacaga atgctatcga atctatgagg cttgctccta tggctccatt 1140
cctgtggtgg aagacgtgat gacagctggc aactgtggga atacatctgt gcaccacggt 1200
gctcctctgc agttactcaa gtccatgggt gctcccttta tctttatcaa gaactggaag 1260
gaactccctg ctgttttaga aaaagagaaa actataattt tacaagaaaa aattgaaaga 1320
agaaaaatgt tacttcagtg gtatcagcac ttcaagacag agcttaaaat gaaatttact 1380
aatattttag aaagctcatt tttaatgaat aataaaagtt aattatcttt ttgagctaaa 1440
aaaaaaaaaa aaaaaaaaaa aaaaaaaaa

Homo sapiens CD3e-associated protein (CAST) mRNA, complete cds.

```
cccaggatgg aggagcccca ggccggcggt gaggatgctg ctcggttctc ttgtcccccc        60
aactttaccg cgaagccccc agcctcagag tcccctcgtt tctccttgga ggcgctgacg       120
ggtccagata cggagctgtg gcttattcag gcccctgcag actttgcccc agaatgcttc       180
aatgggcggc atgtgcctct ctctggctcc cagatcgtca agggcaaatt ggcaggcaag       240
cggcaccgct atcgagtcct cagcagctgt ccccaagctg gagaagcgac cctgctggcc       300
ccctcaacgg aggcaggagg tggactcacc tgtgcctcag ccccccaggg caccctaagg       360
atccttgagg gtccccagca atccctgtca gggagccctc tgcagcccat cccagcaagt       420
cccccaccac agatccctcc tggcctgagg cctcggttct gtgcctttgg gggcaaccca       480
ccagtcacag ggcctaggtc agccttggcc cccaacctgc tcacctcagg gaagaagaaa       540
aaggagatgc aggtgacaga ggccccagtc actcaggagg cagtgaatgg gcacggggcc       600
ctggaggtgg acatggcttt ggggtcgcca gaaatggatg tgcggaagaa gaagaagaaa       660
aaaaatcagc agctgaaaga accagaggca gcagggcctg tggggacaga gcccacagtg       720
gagacactgg agcctctggg agtgctgttc ccgtccacca ccaagaagag gaagaagccc       780
aaagggaaag aaaccttcga gccagaagac aagacagtga agcaggaaca gattaacact       840
gagcctctag aagacacagt cctgtccccg accaaaaaga gaaagaggca aaaggggacg       900
gaagggatgg agccagagga gggggtgaca gttgagtctc agccacaggt gaaggtggag       960
ccactggagg aagccatccc tctgcccccc acgaagaaga ggaaaaaaga aaagggacag      1020
atggcaatga tggagccagg gacggaggcg atggagccag tggagccgga gatgaagcct      1080
ctggagtccc caggggggac catggcgcct caacagccag aaggagcgaa gcctcaggcc      1140
caggcagctc tggcagctcc caaaaagaag acgaagaaag aaaaacagca agatgccaca      1200
gtggagccag agacagaggt ggtggggcct gagctgccgg atgaccttga gcctcaggca      1260
gctcccacat ccaccaagaa gaagaagaag aagaaagaga gaggtcacac agtgactgag      1320
ccaattcagc cactagagcc tgaactgcca ggggagggac agcctgaagc cagggcaact      1380
ccgggatcca ccaagaagag gaagaagcag agtcaggaaa gccggatgcc agagacagtg      1440
ccccaagagg agatgccagg gccgccactg aattcagagt ctggggagga ggctcccaca      1500
ggccgggaca agaagcggaa gcagcagcag cagcagcctg tgtagtctgc ccccgggaaa      1560
ctgaggaact aaagaaagct gaaggtgccc acctgggcca ccagaaggtg acacccccag      1620
aatccctccc cagagactgc accagcgcag ccagcaggag cctggcctgg gaggacgatt      1680
tattattaca ctgggggttt ccttggcagc tggggtcatc agggtacttt caagaagggc      1740
tcgtgcagga catcaaacag cctccgggcc tggatgggag ggagaaaaaa atgaggaacc      1800
gtcattaaa ggagctgttt cctgggtaaa aaaaaaaaaa a
```

Homo sapiens Apo-2 ligand mRNA, complete cds.

```
tttcctcact gactataaaa gaatagagaa ggaagggctt cagtgaccgg ctgcctggct      60
gacttacagc agtcagactc tgacaggatc atggctatga tggaggtcca ggggggaccc     120
agcctgggac agacctgcgt gctgatcgtg atcttcacag tgctcctgca gtctctctgt     180
gtggctgtaa cttacgtgta ctttaccaac gagctgaagc agatgcagga caagtactcc     240
aaaagtggca ttgcttgttt cttaaaagaa gatgacagtt attgggaccc caatgacgaa     300
gagagtatga acagcccctg ctggcaagtc aagtggcaac tccgtcagct cgttagaaag     360
atgattttga gaacctctga ggaaaccatt tctacagttc aagaaaagca acaaaatatt     420
tctcccctag tgagagaaag aggtcctcag agagtagcag ctcacataac tgggaccaga     480
ggaagaagca acacattgtc ttctccaaac tccaagaatg aaaaggctct gggccgcaaa     540
ataaactcct gggaatcatc aaggagtggg cattcattcc tgagcaactt gcacttgagg     600
aatggtgaac tggtcatcca tgaaaaaggg ttttactaca tctattccca aacatacttt     660
cgatttcagg aggaaataaa agaaaacaca aagaacgaca aacaaatggt ccaatatatt     720
tacaaataca caagttatcc tgaccctata ttgttgatga aaagtgctag aaatagttgt     780
tggtctaaag atgcagaata tggactctat tccatctatc aaggggaat atttgagctt      840
aaggaaaatg acagaatttt tgtttctgta acaaatgagc acttgataga catggaccat     900
gaagccagtt ttttcggggc ctttttagtt ggctaactga cctggaaaga aaaagcaata     960
acctcaaagt gactattcag ttttcaggat gatacactat gaagatgttt caaaaaatct    1020
 gaccaaaaca aacaaacaga aa
```

Homo sapiens mRNA for annexin A13 (ANXA13 gene), isoform b

gtaaactttg cctgtaggag gactgatctc ttaatgaaat acagaaaaac catctcagaa 60
aaaggaaaat gggcaatcgt catagccagt cgtacaccct ctcagaaggc agtcaacagt 120
tgcctaaagg ggactcccaa ccctcgacag tcgtgcagcc tctcagccac ccatcacgga 180
atggagagcc agaggcccca cagcctgcta aagcgagcag tcctcagggt tttgatgtgg 240
atcgagatgc caaaaagctg aacaaagcct gcaaaggaat ggggaccaat gaagcagcca 300
tcattgaaat cttatcgggc aggacatcag atgagaggca acaaatcaag caaaagtaca 360
aggcaacgta cggcaaggag ctggaggaag tactcaagag tgagctgagt ggaaacttcg 420
agaagacagc gttggccctt ctggaccgtc ccagcgagta cgccgcccgg cagctgcaga 480
aggctatgaa gggtctgggc acagatgagt ccgtcctcat tgaggtcctg tgcacgagga 540
ccaataagga aatcatcgcc attaaagagg cctaccaaag gctatttgat aggagcctcg 600
aatcagatgt caaaggtgat acaagtggaa acctaaaaaa aatcctggtg tctctgctgc 660
aggctaatcg caatgaagga gatgacgtgg acaaagatct agctggtcag gatgccaaag 720
atctgtatga tgcaggggaa ggccgctggg gcactgatga gcttgcgttc aatgaagtcc 780
tggccaagag gagctacaag cagttacgag ccacctttca agcctatcaa attctcattg 840
gcaaagacat agaagaagcc attgaagaag aaacatcagg cgacttgcag aaggcctatt 900
taactctcgt gagatgtgcc caggattgtg aggactattt tgctgaacgt ctgtacaagt 960
cgatgaaggg tgcggggacc gatgaggaga cgttgattcg catagtcgtg accagggccg 1020
aggtggacct tcaggggatc aaagcaaagt tccaagagaa gtatcagaag tctctctctg 1080
acatggttcg ctcagatacc tccggggact tccggaaact gctagtagcc ctcttgcact 1140
gagccaagcc agggcaatag gaacacaggg tggaaccacc tttgtcaaga gcacattcca 1200
aatcaaactt gcaaatgaga ctcccgcacg aaaaccctta agagtcccgg attactttct 1260
tggcagctta agtggcgcag ccaggccaag ctgtgtaagt taagggcagt aacgttaaga 1320
tgcgtgggca gggcaccttg aactctggct tagcaagcat ctaggctgcc tcttcacttt 1380
cttttagcat ggtaactgga tgttttctaa acactaatga aatcagcagt tgatgaaaaa 1440
actatgcatt tgtaatggca catttagaag gatatgcatc acacaagtaa ggtacaggaa 1500
agacaaaatt aaacaattta ttaattttcc ttctgtgtgt tcaatttgaa agcctcattg 1560
ttaattaaag ttgtggatta tgcctcta

Homo sapiens serine protease inhibitor, Kazal type 1, mRNA (cDNA clone

cgcagaactt cagccatgaa ggtaacaggc atctttcttc tcagtgcctt ggccctgttg 60
agtctatctg gtaacactgg agctgactcc ctgggaagag aggccaaatg ttacaatgaa 120
cttaatggat gcaccaagat atatgaccct gtctgtggga ctgatggaaa tacttatccc 180
aatgaatgcg tgttatgttt tgaaaatcgg aaacgccaga cttctatcct cattcaaaaa 240
tctgggcctt gctgagaacc aaggttttga aatcccatca ggtcaccgcg aggcctgact 300
ggccttattg ttgaataaat gtatctgaat atcaaaaaaa aaaaaaaaaa aaaaaaaaaa 360
aa

Homo sapiens B cell linker protein BLNK mRNA, alternatively spliced

```
ccttcgtggc cgcagcctgc actctcagaa atcagacttg agtggccgga acccttgaga      60
ccagaggctt accatgctgc tccctaggag ggccaggaac tgctgacgtg accactggac     120
agttattcgt gtctcttaca attaccaaac agaatggaca agcttaataa aataaccgtc     180
cccgccagtc agaagttgag gcagcttcaa aagatggtcc atgatattaa aaacaatgaa     240
ggtggaataa tgaataaaat caaaaagcta aaagtcaaag cacctccaag tgttcctcga     300
agggactacg cttcagagag ccccgctgac gaagaggagc agtggtccga tgactttgac     360
agcgactatg aaaatccaga tgagcactcg gactcagaga tgtacgtgat gcccgccgag     420
gagaacgctg atgacagcta cgagccgcct ccagtagagc aggaaaccag gccggttcac     480
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ggcctccttg aggatgaggc tgattatgtg gtccccgtgg aagataatga tgaaaactat     720
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accaagccaa attcctcaac gcccgcctct cctccaggaa cagcttcagg tcgaaacagt     840
ggggcctggg aaaccaagtc acctccacca gctgcaccat ccccgttgcc acgggccggg     900
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ggttgagtta tcatgctact aatattttcc aaataaatat ttttattttt aaaaaaaaaa    1800
aaaaaa
```

Homo sapiens cDNA FLJ12768 fis, clone NT2RP2001576, weakly similar to HYPOTHETICAL 62.2 KD PROTEIN C4G8.12C IN CHROMOSOME I

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tgaaggcgca gcccggaggc cgcgcggatg cagatctgtg gatccagcgt agcatctgta 180
gcagctggga catcattcca ggttttgggc ccggtgtgtt ggcaacaact ggatctgaag 240
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tggttattat gcaaacaagt aatgtttgaa atatataata gcactgg

Homo sapiens glycine amidinotransferase (L-arginine:glycine amidinotransferase), mRNA (cDNA clone MGC:1744 IMAGE:3010128), complete

cgggaaggct tggaccgacg cggcccagag gccaggaaca ttccgcgcgt ggaccagccg 60
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gcactacatc ggatctcggc ttggacgaac cttgacagga tgggtgcagc gaactttcca 180
gagcacccag gcagctacgg cttcctcccg gaactcctgt gcagctgacg acaaagccac 240
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ccgtatgtgt atttttattc taataaactt ttgtgttcca gaaaaaaaaa aaaaaaaaaa 2340
aa

Homo sapiens cDNA FLJ10143 fis, clone HEMBA1003281, weakly similar to POLIOVIRUS RECEPTOR PRECURSOR.

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agggaactcg agagcagcct ccatgggcac acaggagggc tggtgcctgc tgctctgcct 180
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tgacattggt aaat

Homo sapiens leucine aminopeptidase 3, mRNA (cDNA clone IMAGE:2821948), partial cds

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gagagaattt tgataaattg ttagctggaa agctgagaga gactttgaac atatctggac 180
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aaaaaaaaaa aaaaaaaa

Homo sapiens mRNA for protein phosphatase 4 regulatory subunit 2 (PPP4R2 gene)

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aagtgcacct ttagttttac aagtaaagca ggttgtaaaa taaagtactt tatggataat 2040
tcctgaaag

Human mRNA for (2'-5') oligo A synthetase E (1,6 kb RNA)

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acatcccttg tccagaattc attcccctaa gagtaataat aaataatctc taacaccaaa 1320
aa

Homo sapiens A-kinase anchoring protein 18 beta mRNA, complete cds.

```
gctcgcagac tgtgctataa actgcaattt ctatttgggg tcctcacgga gaagaacacc      60
aggaaagaca gacaggacca gtgccatggg ccagctttgc tgctttcctt tctcaagaga     120
tgaaggaaaa atcagtgagt tggaaagctc gtcctctgca gtcctacaaa gatacagcaa     180
ggatataccc agttggtcaa gtggtgaaaa gaacggaggg gagcccgatg acgctgaact     240
agtaaggctc agtaagaggc tggtggagaa cgcggtgctc aaggctgtcc agcagtatct     300
ggaggaaaca cagaataaaa acaagccggg ggaggggagc tctgtgaaaa ccgaagcagc     360
tgatcagaat ggcaatgaca atgagaacaa caggaaatga gcccggaacg caggccccca     420
  tgtctctgtg caaagcctcc ctgcttccct ctgctgagtc tag
```

Homo sapiens peptidyl prolyl isomerase H (cyclophilin H), mRNA (cDNA clone

cttctgcttc cgggtcggag ccatggcggt ggcaaattca agtcctgtta accccgtggt 60
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agacgttgtg cctaagacgg ccgagaactt taggcagttc tgcaccggag aattcaggaa 180
agatggggtt ccaataggat acaaaggaag caccttccac agggtcataa aggatttcat 240
gattcagggt ggagattttg ttaatggaga tggtactgga gtcgccagta tttaccgggg 300
gccatttgca gatgaaaatt ttaaacttag acactcagct ccaggcctgc tttccatggc 360
gaacagtggt ccaagtacaa atggctgtca gttctttatc acctgctcta agtgcgattg 420
gctggatggg aagcatgtgg tgtttggaaa aatcatcgat ggacttctag tgatgagaaa 480
gattgagaat gttcccacag gccccaacaa taagcccaag ctacctgtgg tgatctcgca 540
gtgtggggag atgtagtcca gacaaagact gaatcaggcc ttcccttctt cttggtggtg 600
ttcttgagta agataatctg gactggcccc cgtctttgct tccctgcctg ctgctgcccc 660
atttgatcaa gagaccatgg aagtgtcaga gattcagaat ccaagattgt ctttaagttt 720
tcaactgtaa ataaagtttt tttgtatgcg taaaaaaaaa aaaaa

Homo sapiens mRNA; cDNA DKFZp564C0362 (from clone DKFZp564C0362); complete cds

```
gggggaggct gtgatgggtt gacaggtgcg tgacagtggg agctgctctc ggcacaagca      60
tgtacggcaa aggcaagagt aacagcagcg ccgtcccgtc cgacagccag gcccgggaga     120
agttagcact ctacgtatat gaatatctgc tccatgtagg agctcagaaa tcagctcaaa     180
catttttatc agagataaga tgggaaaaaa acatcacatt gggggaacca ccaggattct     240
tacattcttg gtggtgtgta ttttgggatc tctactgtgc agctccagag agacgtgaaa     300
catgtgaaca ctcaagtgaa gcaaaagcct tccatgatta cagtgctgca gcagctccca     360
gtccagtgct aggaaacatt cccccaggag atggcatgcc agtaggtcct gtaccaccag     420
ggttctttca gccttttatg tcacctcggt accctggagg tccaaggccc ccattgagga     480
tacctaatca ggcacttgga ggtgtcccag gaagtcagcc attactcccc agaggaatgg     540
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tacaagttgc tcctgccccc tccctgaact attttgtgct gtgtatatca ctgctttata    1620
taagttattt tttaaggtga actcagatgt tatggttttg tatatgtctg caatcatgga    1680
taggaataaa atcgcttatt tgagagcttt caaaaaaaaa aaaaaaaaaa c
```

Human interferon-induced cellular resistance mediator protein (MxB) mRNA, complete cds.

aagagatgat ttctccatcc tgaacgtgca gcgagcttgt caggaagatc ggaggtgcca 60
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tccctgatta tgatgagctt ccattgttct gttaagtctt gaagaggaat ttaataaagc 2940
aaagaaactt tttaaaaacg t

Human Ro/SSA ribonucleoprotein homolog (RoRet) mRNA, complete cds.

```
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gcataagaag tattttgagt tgaagacaat tgagaaaaaa aaaaaaaaaa aa            2872
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Homo sapiens cDNA FLJ10465 fis, clone NT2RP1001616.

```
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```

Homo sapiens histone 2, H2aa, mRNA (cDNA clone MGC:2238 IMAGE:3536984), complete cds.

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gaggcaaggc ccgcgccaag gccaagtcgc gctcgtcccg cgctggcctt cagttcccgg 120
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gcacctgtga actcaaaagg ctcttttcag agccacccac gttttcaaat aaaagagttg 540
ttaatgctga aaaaaaaaaa aaaaaaa

Homo sapiens transcription factor ISGF-3 mRNA, complete cds.

attaaacctc tcgccgagcc cctccgcaga ctctgcgccg gaaagtttca tttgctgtat 60
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gacaaagaca aattctgttt cttgagaaga gaatattagc tttactgttt gttatggctt 3120
aatgacacta gctaatatca atagaaggat gtacatttcc aaattcacaa gttgtgtttg 3180
atatccaaag ctgaatacat tctgctttca tcttggtcac atacaattat ttttacagtt 3240

```
ctcccaaggg agttaggcta ttcacaacca ctcattcaaa agttgaaatt aaccatagat      3300
gtagataaac tcagaaattt aattcatgtt tcttaaatgg gctactttgt ccttttgtt       3360
attagggtgg tatttagtct attagccaca aaattgggaa aggagtagaa aaagcagtaa      3420
ctgacaactt gaataatata ccagagataa tatgagaatc agatcatttc aaaactcatt      3480
tcctatgtaa ctgcattgag aactgcatat gtttcgctga tatatgtgtt tttcacattt      3540
gcgaatggtt ccattctctc tcctgtactt tttccagaca ctttttgag tggatgatgt       3600
ttcgtgaagt atactgtatt tttacctttt tccttcctta tcactgacac aaaaagtaga      3660
ttaagagatg ggtttgacaa ggttcttccc ttttacatac tgctgtctat gtggctgtat      3720
cttgtttttc cactactgct accacaacta tattatcatg caaatgctgt attcttcttt      3780
ggtggagata aagatttctt gagttttgtt ttaaaattaa agctaaagta tctgtattgc      3840
attaaatata atatcgacac agtgctttcc gtggcactgc atacaatctg aggcctcctc      3900
tctcagtttt tatatagatg gcgagaacct aagtttcagt tgattttaca attgaaatga      3960
ctaaaaaaca aagaagacaa cattaaaaac aatattgttt cta                        4003
```

Homo sapiens mRNA; cDNA DKFZp564K2478 (from clone DKFZp564K2478); complete

```
agtcccgacg tggaactcag cagcggaggc tggacgcttg catggcgctt gagagattcc      60
atcgtgcctg gctcacataa gcgcttcctg gaagtgaagt cgtgctgtcc tgaacgcggg     120
ccaggcagct gcggcctggg ggttttggag tgatcacgaa tgagcaaggc gtttgggctc     180
ctgaggcaaa tctgtcagtc catcctggct gagtcctcgc agtccccggc agatcttgaa     240
gaaaagaagg aagaagacag caacatgaag agagagcagc ccagagagcg tcccagggcc     300
tgggactacc ctcatggcct ggttggttta cacaacattg gacagacctg ctgccttaac     360
tccttgattc aggtgttcgt aatgaatgtg gacttcacca ggatattgaa gaggatcacg     420
gtgcccaggg gagctgacga gcagaggaga agcgtcccct tccagatgct tctgctgctg     480
gagaagatgc aggacagccg gcagaaagca gtgcggcccc tggagctggc ctactgcctg     540
cagaagtgca acgtgcccct gtttgtccaa catgatgctg cccaactgta cctcaaactc     600
tggaacctga ttaaggacca gatcactgat gtgcacttgg tggagagact gcaggccctg     660
tatacgatcc gggtgaagga ctccttgatt tgcgttgact gtgccatgga gagtagcaga     720
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aagatctgcc actccctgta cttcccccag agcttggatt tcagccagat ccttccaatg    1020
aagcgagagt cttgtgatgc tgaggagcag tctggagggc agtatgagct ttttgctgtg    1080
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cagtgtacct acggaaatcc taactaccac tggcaggaaa ctgcatatct tctggtttac    1260
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gcctgtggga acttcagggg ttcccagtgg ggagagcagt ggcagtggga ggcatctggg    1620
ggccaaaggt cagtggcagg gggtatttca gtattataca actgctgtga ccagacttgt    1680
atactggctg aatatcagtg ctgtttgtaa tttttcactt tgagaaccaa cattaattcc    1740
atatgaatca agtgttttgt aactgctatt catttattca gcaaatattt attgatcatc    1800
tcttctccat aagatagtgt gataaacaca gtcatgaata aagttatttt ccacaaaaaa    1860
aaaaaaaaaa aaaa                                                      1874
```

Homo sapiens cDNA FLJ20073 fis, clone COL02320.

aaaatttgaa gacaagatgg gcacctactc tacaattctg ataaaaacag aggtcatcga 60
atgtgggaac tactgtggag tacgcatcat tcactctttg attgcagagt tctcactgga 120
agaattgaag aaaagctatc acctgaataa aagtcaaatt atgttggata tgctaactga 180
gaatttgttc ttcgatactg gtatgggaaa aagtaaattt ttgcaagata tgcacacact 240
cctactcaca agacaccgcg atgaacatga aggtgaaaca ggaaattggt tttccccatt 300
tattgaagca ttacataaag atgaaggaaa tgaagcagtt gaagctgtat tgcttgaaag 360
tatccatcgg ttcaacccaa atgcattcat ttgccaagcg ttggcaagac atttctacat 420
taaaaagaag gactttggca atgctctaaa ctgggcaaaa caagcaaaaa tcatagaacc 480
tgacaattct tatatctcag atacactggg tcaagtctac aaaagtaaaa taagatggtg 540
gatagaggaa aacggaggaa acgggaacat ttcagttgat gatctaattg ctcttttgga 600
tttagcagaa catgcctcaa gtgcattcaa agaatctcaa cagcaaagtg aagatagaga 660
gtatgaagtg aaggaaagat tgtatccgaa gtcaaaaagg cggtatgata cttacaatat 720
agctggttat caaggagaga tagaagttgg gctttacaca atccaaattc tccagctcat 780
tccttttttt gataataaaa atgagctatc taaaagatat atggtcaatt ttgtatcagg 840
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gaatgtctgg gaaaatattt ctcaaagaca gcaaaaacct ctcaaactga ggagcaacat 2340
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aacaaaaaca accagcgata cgtaatcaaa atgtaatttt cccctaataa aattatggat 2760
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aaagggcaac atatagactt tagatcctaa tttgagcaaa atctaaaatc aattattagg 3240
caatcagaaa aatttgaaca cagactagat atttgaggat attaaggtac tatattattg 3300

```
aagattccat ggttatgttt tttaaagagt tcatgccttt tagagataca tactaaagta      3360
tttgtaaata aatgacatga tctagaaaaa aaaaaaaaaa a                          3401
```

Homo sapiens cDNA FLJ10913 fis, clone OVARC1000209, weakly similar to Oryza sativa submergence induced protein 2A mRNA.

```
gagcgcggcc cctgggttcg aacacggcac ccgcactgcg cgtcatggtg ctggcctggt      60
atatggacga cgccccgggc gacccgcggc aaccccaccg ccccgacccc ggccgcccag     120
tgggcctgga gcagctgcgg cggctcgggg tgctctactg gaagctggat gctgacaaat     180
atgagaatga tccagaatta gaaaagatcc gaagagagag gaactactcc tggatggaca     240
tcataaccat atgcaaagat aaactaccaa attatgaaga aaagattaag atgttctacg     300
aggagcattt gcacttggac gatgagatcc gctacatcct ggatggcagt gggtacttcg     360
acgtgaggga caaggaggac cagtggatcc ggatcttcat ggagaaggga gacatggtga     420
cgctccccgc ggggatctat caccgcttca cggtggacga gaagaactac acgaaggcca     480
tgcggctgtt tgtgggagaa ccggtgtgga cagcgtacaa ccggcccgct gaccattttg     540
aagcccgcgg gcagtacgtg aaatttctgg cacagaccgc ctagcagtgc tgcctgggaa     600
ctaacacgtg cctcgtaaag gtccccaatg taatgactga gcagaaaatc aatcactttc     660
tctttgcttt tagaggatag ccttgaggct agattatctt tcctttgtaa gattatttga     720
tcagaatatt ttgtaatgaa aggatctaga aagcaacttg gaagtgtaaa gagtcacctt     780
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taagtaaact ctgtctcagt tttaggatta aaatacccac cggtggtgtg atgatgccat    1560
ataccgcagg gcttgcttct gtcaagtgtg actctatctc agtaattaaa ataagtgctg    1620
atctactg                                                            1628
```

Homo sapiens interferon induced transmembrane protein 1 (9-27), mRNA (cDNA clone MGC:5195 IMAGE:3464598), complete cds.

```
aaacgacagg ggaaaggagg tctcactgag caccgtccca gcatccggac accacagcgg        60
cccttcgctc cacgcagaaa accacacttc tcaaaccttc actcaacact tccttcccca       120
aagccagaag atgcacaagg aggaacatga ggtggctgtg ctgggggcac cccccagcac       180
catccttcca aggtccaccg tgatcaacat ccacagcgag acctccgtgc ccgaccatgt       240
cgtctggtcc ctgttcaaca ccctcttctt gaactggtgc tgtctgggct tcatagcatt       300
cgcctactcc gtgaagtcta gggacaggaa gatggttggc gacgtgaccg gggcccaggc       360
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cattggattc atcctgttac tggtattcgg ctctgtgaca gtctaccata ttatgttaca       480
gataatacag gaaaaacggg gttactagta gccgcccata gcctgcaacc tttgcactcc       540
actgtgcaat gctggccctg cacgctgggg ctgttgcccc tgccccttg gtcctgcccc       600
tagatacagc agtttatacc cacacacctg tctacagtgt cattcaataa agtgcacgtg       660
cttgtgaaaa aaaaaaaaaa aaa                                               683
```

Homo sapiens cDNA: FLJ22242 fis, clone HRC02528.

```
aacttttaaa aactctcatt ggagtaagtc ttttcaagat gatcctccac aatggaggca      60
gcgttcctac ttgtcatcac acagctgaag acattgtttc ttaggtgtga aatcggggac     120
aaaggacaaa cagagacaca cggcattgtt catgggaggc atcgtcaccc tcctgggtgt     180
tctgtgggaa tttcctgtgt gaggaaaacg tggccacagg gttgtgctgt acccaccctt     240
ccccggcgag atggccctcg gcctgtgccg ctgcttccac cctcgccact ccatggcagc     300
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gctggacccc tccacctgga ggccagccca tgtctcaggc ccagccctag cctcttctcc     420
tcaaattcta agtgttttct ctttaggttt ccctggcttt gtgaatggat catgtgtctc     480
taggtataaa cctgacatca tctttccacc cggcttacct ccaccagatc tccccagttc     540
tgtctccatc ttctgcctgc agctgctctg ttctcatggt cactgctgca tcactgagtc     600
tggacccttg ttatcatttt caaactggcc tccttccctc gttccccact tcttaaagtc     660
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tccattgaca tggaaacacc attgtctggc acacatactc acatacccac cttcccgtct     780
tgatccccac acatctttcc agcctccctt cccactccac tccctgctct ctcctccacc     840
tccccatcct cttgtctccc ctcccctctg aatccagccc agcggggctt ctcctgcctc     900
catcacatca cagaagtacc tcctgcttct ggttttaatt agagccttcc ccgattacat     960
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atgcctcgtt ggtttctgta ttcctcatgg tgccaaacac agtgccttct acattgcagg    1260
cgctgaataa acatttttaa agcaaaaaaa aaaaaaaaaa                          1300
```

ta77f02.x2 NCI_CGAP_HSC2 Homo sapiens cDNA clone IMAGE:2050107 3' similar to gb:L19779 HISTONE H2A.1 (HUMAN);, mRNA sequence.

tatacggctg cgagaagacg acagaagggg cacctgtgaa ctcaaaaggc tcttttcaga 60
gccacccacg ttttcaaata aaagagttgt taatgctggc cactcccaaa aaaaaaaaaa 120
aaaaaaaaaa agtcgtatcg a 141

H.sapiens centromere autoantigen C (CENPC) mRNA, complete cds.

```
cggatcgcag ctctcgcggc agtcgcctga gacttaaggt tattgcttgg ccgcggcctg      60
gtattccggc gattcgtttc ttgctcggct tcctggagct gtggtccgtg tgggcttcca     120
cctcagacag ttgcgctggc tcagcggggc cggaacatgg ctgcgtccgg tctggatcat     180
ctcaaaaatg gctacagaag aagattttgt cgaccttcca gggcacgtga cattaacaca     240
gagcaaggcc agaatgttct ggaaatctta caagactgtt ttgaagaaaa aagtcttgcc     300
aatgatttta gtacaaattc tacaaaatca gtgcctaatt caacacgcaa aataaaagac     360
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tcttcaaaga agaaagaagc ctctctacag tttgttgtag aaccaagtga agccacaaac     480
agatcagttc aggcccatga agttcatcag aaaattctgg caactgatgt tagttccaaa     540
aatacacctg actcgaaaaa aatatcaagt agaaacataa atgatcatca cagtgaagct     600
gatgaagaat tttacttatc cgttggctca ccttctgttc ttttggatgc aaaaacatct     660
gtatcacaaa atgttattcc atctagtgcc aaaaagagag agacttacac ttttgaaaat     720
tcagtaaata tgctgccttc aagtacagag gtttcagtta aaaccaaaaa aaggttaaac     780
tttgatgata aagttatgtt aaagaaaata gaaatagata ataaagtatc agatgaagag     840
gataaaacat cggaaggaca agaaagaaaa ccatcaggat catctcagaa tagaatacga     900
gattcagaat atgaaattca acgacaagct aaaaaaagtt tttcaacatt gtttttagaa     960
acagtaaaac gaaaaagtga atccagtccc attgttaggc atgcggcaac tgctccacct    1020
cattcgtgtc ctcccgatga tacgaagttg atagaggatg aatttataat tgatgagtcg    1080
gatcaaagtt ttgccagtag atcttggatt acaataccaa gaaaggcagg gtctctgaaa    1140
caacgcacaa tatccccggc tgagagcact gcactctttc aaggtagaaa gtcaagagaa    1200
aagcatcata atatattacc taagactttg gcaaatgaca aacattccca taaacctcac    1260
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gatgaaacag taaataatta tagatctaca aaatatgaaa tgtattccaa gaatgcagaa    1380
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aaaaaaaaaa aa                                                       3132
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Homo sapiens transcription factor ISGF-3 mRNA, complete cds.

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Homo sapiens ornithine decarboxylase (ODC1) mRNA, complete cds.

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Homo sapiens hephaestin (HEPH) mRNA, complete cds.

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Human 18S rRNA gene, complete.

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Homo sapiens cell death regulator aven mRNA, complete cds.

```
gggcgtctcc gcagctcggc tcccgcgcgc tcagcaccac cagcggcgcc agatgcaggc      60
ggagcgagga gctcggggag gccgtgggcg gcggccaggc cgcggccggc ctggcggaga     120
tcgccacagc gagcggcccg gagccgcagc ggcggtagcc agaggcggcg gcggaggcgg     180
cggcggggac ggaggcggac gccggggccg tggccgtggc cggggcttcc gcggcgctcg     240
cggaggccga ggaggaggag gcgccccgcg aggcagccgc cgggagccgg gaggctgggg     300
cgcaggggcc agcgcgccgg ttgaagatga cagcgatgca gagacctatg gagaagagaa     360
tgatgaacag ggaaattatt ctaaaagaaa gattgtctct aactgggatc gatatcaaga     420
tattgaaaaa gaggtcaata atgaaagtgg agagtcacag aggggaacag atttcagtgt     480
cctccttagc tctgcagggg actcattctc acagttccgg tttgctgagg agaaagaatg     540
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ccagggtaca gttcctttag aggttcctca ggtgaaacca aagagaactg atgatggcaa     720
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gctgaaatct gtggctgctg gctgccctgt gttgctgggc aaagacaacc caagcccggg     840
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agaagaacta gatctgttgc ttaatttaga tgcacctata aaagagggag ataacatctt     960
accagatcag acgtctcagg acctgaaatc caaggaagat ggggaggtgg tccaagagga    1020
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cttgttgcat ttgtttttct ggcttagtaa tctaatagat ttccttaagg gcaggagata    1380
gactctggcc cttgtttcta gcctccttcc ttgcagtgtt tacaacatag ccagtgttta    1440
cagcatagca gatgctgctg ctggttaaga gaatagatgc aaacaaggca tgcatttggc    1500
caaaataaac aaatgctggt ctgtccaaaa aannaaaaaa aaaaaaaaa                1549
```

Homo sapiens interferon, gamma-inducible protein 16, mRNA (cDNA clone MGC:9466 IMAGE:3914632), complete cds.

gcagaatagg agcaagccag cactagtcag ctaactaagt gactcaacca aggccttttt 60
tccttgttat ctttgcagat acttcatttt cttagcgttt ctggagatta caacatcctg 120
cggttccgtt tctgggaact ttactgattt atctcccccc tcacacaaat aagcattgat 180
tcctgcattt ctgaagatct caagatctgg actactgttg aaaaaatttc cagtgaggct 240
cacttatgtc tgtaaagatg ggaaaaaaat acaagaacat tgttctacta aaaggattag 300
aggtcatcaa tgattatcat tttagaatgg ttaagtcctt actgagcaac gatttaaaac 360
ttaatttaaa aatgagagaa gagtatgaca aaattcagat tgctgacttg atggaagaaa 420
agttccgagg tgatgctggt ttgggcaaac taataaaaat tttcgaagat ataccaacgc 480
ttgaagacct ggctgaaact cttaaaaaag aaaagttaaa agtaaaagga ccagccctat 540
caagaaagag gaagaaggaa gtggatgcta cttcacctgc accctccaca agcagcactg 600
tcaaaactga aggagcagag gcaactcctg gagctcagaa aagaaaaaaa tcaaccaaag 660
aaaaggctgg acccaaaggg agtaaggtgt ccgaggaaca gactcagcct ccctctcctg 720
caggagccgg catgtccaca gccatgggcc gttccccatc tcccaagacc tcattgtcag 780
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ccagaagaaa tgttctccaa aaacgcccag tgatagtgaa ggtactgagt acaacaaagc 900
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cacagacaca gttcttccat gtgaaggttt taaacaccag cttgaaggag aaattcaatg 1020
gaaagaaaat catcatcata tcagattatt tggaatatga tagtctccta gaggtcaatg 1080
aagaatctac tgtatctgaa gctggtccta accaaacgtt tgaggttcca aataaaatca 1140
tcaacagagc aaaggaaact ctgaagattg atattcttca caaacaagct tcaggaaata 1200
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aaattcagga tgatagagga aaaatggatg tagtggggac aggacaatgt cacaatatcc 1320
cctgtgaaga aggagataag ctccaacttt tctgctttcg acttagaaaa aagaaccaga 1380
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gaaacaatga ccccaagagc atgaagctac cccaggaaca gagtcagctt ccaaatcctt 1500
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taggcccagc tgagagccat ccccacactc ctcagatgcc tccatcaaca ccaagcagca 1740
gtttcttaac cacgttgaaa ccaagactga agactgaacc tgaagaagtt tccatagaag 1800
acagtgccca gagtgacctc aaagaagtga tggtgctgaa cgcaacagaa tcatttgtat 1860
atgagcccaa agagcagaag aaaatgtttc atgccacagt ggcaactgag aatgaagtct 1920
tccgagtgaa ggtttttaat attgacctaa aggagaagtt caccccaaag aagatcattg 1980
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cagggaagat ggaagtggtg gtgcatggac gactgaccac aatcaactgt gaggaaggag 2280
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gatctgtaat tcatagtcac atcaaggtca tcaagaccag gaaaaacaag aaagacatac 2400
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ggggtattgg gagtgctttt ttaatttttc atagtttttt tttaataaaa tggcatattt 2640
tgcatctaca acttctataa tttgaaaaaa taaataaaca ttatcttttt tgtgaaaaaa 2700
aaaaaaaaa 2709

Homo sapiens guanylate binding protein 1, interferon-inducible, 67kDa, mRNA (cDNA clone MGC:3949 IMAGE:3606865), complete cds.

```
ggagtcagtg atttgaacga agtactttca gtttcatatt actctaaatc cattacaaat      60
ctgcttagct tctaaatatt tcatcaatga ggaaatccca gccctacaac ttcggaacag     120
tgaaatatta gtccagggat ccagtgagag acacagaagt gctagaagcc agtgctcgtg     180
aactaaggag aaaaagaaca gacaagggaa cagcctggac atggcatcag agatccacat     240
gacaggccca atgtgcctca ttgagaacac taatgggcga ctgatggcga atccagaagc     300
tctgaagatc ctttctgcca ttacacagcc tatggtggtg gtggcaattg tgggcctcta     360
ccgcacaggc aaatcctacc tgatgaacaa gctggctgga aagaaaaagg gcttctctct     420
gggctccacg gtgcagtctc acactaaagg aatctggatg tggtgtgtgc cccaccccaa     480
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gtacaatagc ataggaacca tcaaccagca ggctatggac caactgtact atgtgacaga     660
gctgacacat agaatccgat caaaatcctc acctgatgag aatgagaatg aggttgagga     720
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ggacttggaa gcagatggac aacccctcac accagatgag tacctgacat actccctgaa     840
gctgaagaaa ggtaccagtc aaaaagatga aacttttaac ctgcccagac tctgtatccg     900
gaaattcttc ccaaagaaaa aatgctttgt ctttgatcgg cccgttcacc gcaggaagct     960
tgcccagctc gagaaactac aagatgaaga gctggacccc gaatttgtgc aacaagtagc    1020
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ctatgaggaa ccgaggaagg ggatacaggc tgaagagatt ctgcagacat acttgaaatc    1620
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aaacaatttt agaatttgga acaagcgtca ctacatttga taataattag atcttgcatc    2100
ataacaccaa aagtttataa aggcatgtgg tacaatgatc aaaatcatgt tttttcttaa    2160
aaaaaaaaaa aaaaaa                                                    2176
```

Homo sapiens interferon induced transmembrane protein 1 (9-27), mRNA (cDNA clone MGC:5195 IMAGE:3464598), complete cds.

```
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aagccagaag atgcacaagg aggaacatga ggtggctgtg ctgggggcac cccccagcac       180
catccttcca aggtccaccg tgatcaacat ccacagcgag acctccgtgc ccgaccatgt       240
cgtctggtcc ctgttcaaca ccctcttctt gaactggtgc tgtctgggct tcatagcatt       300
cgcctactcc gtgaagtcta gggacaggaa gatggttggc gacgtgaccg gggcccaggc       360
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cattggattc atcctgttac tggtattcgg ctctgtgaca gtctaccata ttatgttaca       480
gataatacag gaaaaacggg gttactagta gccgcccata gcctgcaacc tttgcactcc       540
actgtgcaat gctggccctg cacgctgggg ctgttgcccc tgcccccttg gtcctgcccc       600
tagatacagc agtttatacc cacacacctg tctacagtgt cattcaataa agtgcacgtg       660
cttgtgaaaa aaaaaaaaaa aaa                                               683
```

Homo sapiens transcription factor ISGF-3 mRNA, complete cds.

```
attaaacctc tcgccgagcc cctccgcaga ctctgcgccg gaaagtttca tttgctgtat      60
gccatcctcg agagctgtct aggttaacgt tcgcactctg tgtatataac ctcgacagtc     120
ttggcaccta acgtgctgtg cgtagctgct cctttggttg aatccccagg cccttgttgg     180
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ggagcaggtt caccagcttt atgatgacag ttttcccatg gaaatcagac agtacctggc     300
acagtggtta gaaaagcaag actgggagca cgctgccaat gatgtttcat ttgccaccat     360
ccgttttcat gacctcctgt cacagctgga tgatcaatat agtcgctttt ctttggagaa     420
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gttagacaaa cagaaagagc ttgacagtaa agtcagaaat gtgaaggaca aggttatgtg     660
tatagagcat gaaatcaaga gcctggaaga tttacaagat gaatatgact tcaaatgcaa     720
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atatccaaag ctgaatacat tctgctttca tcttggtcac atacaattat ttttacagtt    3240
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```

```
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tcctatgtaa ctgcattgag aactgcatat gtttcgctga tatatgtgtt tttcacattt      3540
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attaaatata atatcgacac agtgctttcc gtggcactgc atacaatctg aggcctcctc      3900
tctcagtttt tatatagatg gcgagaacct aagtttcagt tgattttaca attgaaatga      3960
ctaaaaaaca aagaagacaa cattaaaaac aatattgttt cta                        4003
```

Homo sapiens phospholipid scramblase 1, mRNA (cDNA clone IMAGE:4253596), complete cds.

```
gagaaggttg cgcagcagct gtgcccggca gtctagaggc gcagaagagg aagccatcgc        60
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ctgttttaat catggacaaa caaaactcac agatgaatgc ttctcacccg gaaacaaact       180
tgccagttgg gtatcctcct cagtatccac cgacagcatt ccaaggacct ccaggatata       240
gtggctaccc tgggccccag gtcagctacc caccccacc agccggccat tcaggtcctg       300
gcccagctgg ctttcctgtc ccaaatcagc cagtgtataa tcagccagta tataatcagc       360
cagttggagc tgcaggggta ccatggatgc cagcgccaca gcctccatta aactgtccac       420
ctggattaga atatttaagt caggtaattt caaagacaca aaatactcat aaaaaacaga       480
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agcaaaactg tatttcctgc taacagatta ctctaattct tctaggtctg gttcaatttt       600
aaagcaaaat acaaatgcct tagaaaattg tattttctgt tatcttaaat acaatctatg       660
ataatggcca atagcaaaca tttaattagc actgtttcct gcctttgttg tatgcctgat       720
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caaaagaaga aacagaggtc cagagaggtt atatagctca ctctggggtg agaacctaaa       840
gagtcaagac tgtttttta atcccgaaac tttggtactg agcgaagtgc tctttagtct       900
caatactgaa taattgcctt ataatttgga agaaaattta aataaagttt attgttgagt       960
ttcaataagt ggccccaaac aaggggttaa tattttatgt gtaatatgac tcacctttt      1020
attgtaacta ataaaactgc atttttatga tgctgctttt gttctttgga agacctaatt      1080
ttataaatgc cattaataaa ggagtaaaaa gccaaaaaaa aaaaaaaaaa aaaaaaaaaa      1140
aaa                                                                   1143
```

Homo sapiens metalloprotease disintegrin cysteine-rich protein, secreted form mRNA, complete cds.

```
gcgagaagag cagacaccgt gctcctggaa tcacccagca tgttgcaagg tctcctgcca        60
gtcagtctcc tcctctctgt tgcagtaagt gctataaaag aactccctgg ggtgaagaag       120
tatgaagtgg tttatcctat aagacttcat ccactgcata aaagagaggc caaagagcca       180
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tataattcca ctggaaagga gatcaccaca agcccacaaa ttatggatga ttgttattat       360
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ccttggaaat ctgtgtgtgt gcgggtgtgt gtgtgtgtgt gtgtgcaggg gtggcagaag      2040
tactgtggga tgggacagaa ataaaaaaaa aaaaaaaaaa aaaaaaa                    2087
```

Homo sapiens matrix metalloproteinase 7 (matrilysin, uterine), mRNA (cDNA clone MGC:3913 IMAGE:3545760), complete cds.

```
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acagtgggaa caggctcagg actatctcaa gagattttat ctctatgact cagaaacaaa     180
aaatgccaac agtttagaag ccaaactcaa ggagatgcaa aaattctttg gcctacctat     240
aactggaatg ttaaactccc acgtcataga aataatgcag aagcccagat gtggagtgcc     300
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Homo sapiens cDNA FLJ10650 fis, clone NT2RP2005853

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Homo sapiens transcription factor ISGF-3 mRNA, complete cds

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```

Homo sapiens RNA helicase (RIG-I) mRNA, complete cds.

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tgggtataat catggatcgc ttgtacccct gtgaaaatat atttttaaa aataaaaaaa 3060
aaaaa 3065

Homo sapiens melanoma differentiation associated protein-5 (MDA5) mRNA, complete cds.

```
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cagcaccatc tgcttgggag aaccctctcc cttctctgag aaagaaagat gtcgaatggg     180
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agtgatgagg gtggtgatga tgagtattgt gatggtgatg aagatgagga tgatttaaag    2160
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gctgaagtag gagtcaaagc ccaccatctg attggagctg gacacagcag tgagttcaaa    2460
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aaagcactgc aaaagaagtg tgccgactat caaataaatg gtgaaatcat ctgcaaatgt    3060
ggccaggctt ggggaacaat gatggtgcac aaaggcttag atttgccttg tctcaaaata    3120
aggaattttg tagtggtttt caaaaataat tcaacaaaga aacaatacaa aaagtgggta    3180
gaattaccta tcacatttcc caatcttgac tattcagaat gctgtttatt tagtgatgag    3240
```

gattagcact tgattgaaga ttcttttaaa atactatcag ttaaacattt aatatgatta 3300
tgattaatgt attcattatg ctacagaact gacataagaa tcaataaaat gattgtttta 3360
ctctgaaaaa aaaaaaaaaa 3380

Homo sapiens signal transducer and activator of transcription 1, 91kDa, transcript variant beta, mRNA (cDNA clone MGC:3493 IMAGE:3627218), complete cds.

```
tcgctttcct gcgcagagtc tgcggagggg ctcggctgca ccgggggggat cgcgcctggc      60
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ccgcctagcc cttccggatc ctgcgcgcag aaaagtttca tttgctgtat gccatcctcg     180
agagctgtct aggttaacgt tcgcactctg tgtatataac ctcgacagtc ttggcaccta     240
acgtgctgtg cgtagctgct cctttggttg aatccccagg cccttgttgg ggcacaaggt     300
ggcaggatgt ctcagtggta cgaacttcag cagcttgact caaaattcct ggagcaggtt     360
caccagcttt atgatgacag ttttcccatg gaaatcagac agtacctggc acagtggtta     420
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tgacatgttt acaaacctca agccagcctt gctcctggct ggggcctgtt gaagatgctt    2520
gtattttact tttccattgt aattgctatc gccatcacag ctgaacttgt tgagatcccc    2580
gtgttactgc ctatcagcat tttactactt taaaaaaaaa aaaaaaaaa                2629
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Homo sapiens cDNA: FLJ21350 fis, clone COL02751.

```
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ggaattgctt tgatcagaca acttcttatc tttgtggtag aaacagaact gcccttcttg     180
gagtggctct gcctctgaga tcactacagg ggagacagca tgccctgttc agctggctga     240
atatttggca acaatctcct gaagcagctg gaattgacaa gaagtactgg agattagctc     300
gggccaaacc cttacatctg gcctgactac tgctgcagtc tgcctcaact tacccctaaa     360
gctggggaga tgccacccac ccacatcttt gctacacatg ccatcatgag ctagagttca     420
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Homo sapiens IFI16b (IFI16b) mRNA, complete cds.

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gaagaaaagt tccgaggtga tgctggtttg ggcaaactaa taaaaatttt cgaagatata     480
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agcactgtca aaactgaagg agcagaggca actcctggag ctcagaaaag aaaaaaatca     660
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aagaattagg aaagtaatca attttttttc ctagaaaaaa tccagcagac aaagaacttc      3420
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tgaaaaaaaa a                                                          4151
```

Homo sapiens mRNA for STAT induced STAT inhibitor-2, complete cds.

```
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agccatcccc gcaggcggcg cgtctggcga aggccctgcg ggagctcggt cagacaggat     180
ggtactgggg aagtatgact gttaatgaag ccaaagagaa attaaaagag gcaccagaag     240
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aagattactt ggaagaatat aaattccagg tataaatgtt tctcttttt taaacatgtc      660
tcacatagag tatctccgaa tgcagctatg taaaagagaa ccaa                      704
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Homo sapiens transcription factor ISGF-3 mRNA, complete cds.

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gccatcctcg agagctgtct aggttaacgt tcgcactctg tgtatataac ctcgacagtc 120
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ggcacaaggt ggcaggatgt ctcagtggta cgaacttcag cagcttgact caaaattcct 240
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tctcagtttt tatatagatg gcgagaacct aagtttcagt tgattttaca attgaaatga 3960
ctaaaaaaca aagaagacaa cattaaaaac aatattgttt cta 4003

Homo sapiens pancreas sodium bicarbonate cotransporter mRNA, complete cds.

gcggcggcgg ccgcggtggc agcgaaggcg gcggcggcgg cggcagtggc agtggccgct 60
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aattcctttc cttcagtcac tcggtatgcc aagtcctcct agaactccag taaaagttgt      3420
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ctttgcctct attaagcaga ggatggaagt attaaggatt ttgtaacacc ttttatgaaa      3840
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aaccaaattt aacgtggtat ttaaaggtaa tatttttaat atgatacatt acatattgtg      5160
aatgtatact aaaaaaacat tttaaatgtt aaaattataa tttcagattc atataaccac      5220
aactgtgata tatcctaact ataaccagtt gttgaggggt atactagaag cagaatgaaa      5280
ccacattttt tggtttgata atatgcactt attgactccc ac                        5322
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Homo sapiens interferon stimulated T-cell alpha chemoattractant precursor, mRNA, complete cds.

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ctccttccaa gaagagcagc aaagctgaag tagcagcaac agcaccagca gcaacagcaa        60
aaaacaaaca tgagtgtgaa gggcatggct atagccttgg ctgtgatatt gtgtgctaca       120
gttgttcaag gcttccccat gttcaaaaga ggacgctgtc tttgcatagg ccctggggta       180
aaagcagtga aagtggcaga tattgagaaa gcctccataa tgtacccaag taacaactgt       240
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gacaaaatag aagtgattat taccctgaaa gaaaataaag gacaacgatg cctaaatccc  300
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caaaacatat gaagtcctgg aaaagggcat ctgaaaaacc tagaacaagt ttaactgtga  420
ctactgaaat gacaagaatt ctacagtagg aaactgagac ttttctatgg ttttgtgact  480
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gtataaatga tagcaatatc ttggacacat ttgaaataca aaatgttttt gtctaccaaa 1260
gaaaaatgtt gaaaaataag caaatgtata cctagcaatc acttttactt tttgtaattc 1320
tgtctcttag aaaaatacat aatctaatca aaaaaaaaaa aaaaaaaaaa a           1371
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Homo sapiens mRNA; cDNA DKFZp586J0323 (from clone DKFZp586J0323)

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aaacttcaaa cctggactag ttcatcctta tgcattgagg ctttttttatt cgtgttcgtt     120
tgtttttacc agttaactat caacataaat ttcatttata atattgtatg ttcagtgttc     180
caaaaaactg gtcctaccaa catagtttgg aatgactcca ttataagatg gtgactgcct     240
gtatcaaatc tttactgcct ttttcaaatt cttaccattt ttataaaaag gagtcacact     300
actcaatcta tacatcagtg ttaaatatga tttttactaa ttttttttt ttttaccaac     360
actatcttaa aaaatctgac agcatagagc agtgattaaa ggcatttgct tcagggtcaa     420
atatagttac actgctgttt tttggacaat ttgttatttt gaaccattgt ttcttacctt     480
tataaaatga gcataagata atgttctttt aaggtgagta tgagatacaa atgagaaaag     540
caataataat aaagattcaa caatggaaac tgctatttac attatgattg ttataattag     600
aaggacaaac tgtaatttaa cgttcctata gtaataaaat ggcatctaca gagcaaatct     660
aaacagactt aatcttcata taacaattca tcccagataa tttgaattga ccataataac     720
atgtttgaaa ggaggctgaa ataaaacagg gtttgctctt ttcaactctt tagccaagac     780
ttttttaaa aaaaactggt atataaatgc tttgtatttc ctttcaagtt tgaagggaaa     840
ataaatataa tacttaatag attttcaagt atctctttag acattctctt gtttaggctt     900
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aattagggtt tgggctgaaa cccagattcc tatatatgtg gatagagtga tgtagaagta    1080
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tttaaaaaaa aaaaaaaaaa                                               2480
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Homo sapiens cDNA FLJ20637 fis, clone KAT03212.

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ttcacttttg ctgcttcact gccttgtgct ccaataaatc cactccttca ccacccaaaa 1980
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 2010

Homo sapiens sodium bicarbonate cotransporter (HNBC1) mRNA, complete cds.

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Human BRCA1-associated RING domain protein (BARD1) mRNA, complete cds.

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Human 18S rRNA gene, complete.

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Human mRNA for 56-KDa protein induced by interferon

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qx82h04.x1 NCI_CGAP_GC6 Homo sapiens cDNA clone IMAGE:2009047 3', mRNA sequence.

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Human interferon-induced cellular resistance mediator protein (MxA) mRNA, complete cds.

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aggagaacag ctctgtgata ccatttaact tgttgacatt acttttattt gaaggaacgt     180
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gctgatccag ctgctgcatc ccaccctcta ttactgaatg gagatgctac tgtggcccag     300
aaaaatccag gctcggtggc cgagaacaac ctgtgcagcc agtatgagga gaaggtgcgc     360
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ccagccatcg ccgtcatcgg ggaccagagc tcgggcaaga gctccgtgtt ggaggcactg     480
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ctgaagaaac ttgtgaacga agataagtgg agaggcaagg tcagttacca ggactacgag     600
attgagattt cggatgcttc agaggtagaa aaggaaatta ataaagccca gaatgccatc     660
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tgctcagtag tcagactgga tagtccgttc ctgcttatcc gttagccgtg gtgatttagc    2340
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catgagctgg cgggattgaa ggatgctgtc ttcgtactgg gaaagggatt ttcagccctc    2460
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aacatcacag cttatttcct catttttata atgtcccttc acaaacccag tgttttagga    2580
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atttctagca g                                                        2651
```

Homo sapiens cDNA: FLJ21726 fis, clone COLF1088.

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agtgcatgga gacgagaggt gtttctaaag atgggagaaa tgacagcgtg catgtgtgcc      60
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tccttgagta gttggccaag ggagagacct cctgcacaaa tggagggttt ggcctcacgc     180
agaaagaagc acacttggtt catccctggc agcaggaggg aaggcgtggg tgtagggaac     240
agggcgtgtg gaggggatct tttgggtgct cttattttct cagtgaaata caggacgcaa     300
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ctttcagagc aggggcatgg tttccttcca aatatttctg ctgcttttat aagtgtacac    1800
cctttttttt aattataaaa atgggctcgt gctaaaaaaa aaaaaaaaaa aaaaaaaaa     1859
```

xw86e11.x1 NCI_CGAP_Pan1 Homo sapiens cDNA clone IMAGE:2834924 3', mRNA sequence.

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ttataagaaa tttatttttt cacagataca gaacataaat ccaagaaaaa ttattattat      60
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aagaggaata ttggaccact gaaaatctca accaacgcta atattaggag cacacgtacc     420
atgaggaaga gaagggatgg ggaaaccaag atggcagagt tagagcaaca aagttagtaa     480
catgagagtt tcccagcaat ttgagtaaga                                      510
```

Human 71 kDa 2'5' oligoadenylate synthetase (p69 2-5A synthetase) mRNA, complete cds.

```
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gaagctgggt tggtttatcc aggaatacct gaagccctac gaagaatgtc agacactgat     120
cgacgagatg gtgaacacca tctgtgacgt ctgcaggaac cccgaacagt tccccctggt     180
gcagggagtg gccataggtg gctcctatgg acggaaaaca gtcttaagag gcaactccga     240
tggtaccctt gtccttttct tcagtgactt aaaacaattc caggatcaga agagaagcca     300
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gtgatacaat aaagaatgta tctgg                                          2905
```

Homo sapiens cDNA FLJ20035 fis, clone COL00213.

```
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cattccccaa aataggaaaa ctcataaaat ccaatgttcc tgagctgaga ggacacttcc     180
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cgatctgttt accaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaa                   1906
```

Homo sapiens monocarboxylate transporter 2 (hMCT2) mRNA, complete cds.

```
ggaaacttct gcctcaggtg gggagaggag tccatagatc agggaaactt atgtcttggt      60
gaaatggaag accatgtttc taaacacctg tcgccaggtt acttgaattt ccactagagg     120
agcagaaatg ccaccaatgc caagtgcccc acctgtgcat ccacctccag atggaggatg     180
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aagttcattg gctcctttca atcagtacct ttttaatact tttggctgga aaggaagctt     660
cctgattttg ggaagtctac ttttgaatgc ctgtgtggct ggttccctca tgagacccct     720
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aaaa                                                                2104
```

Homo sapiens interferon-induced protein 44, mRNA (cDNA clone MGC:24007

```
ggggcatttt gtgcctgcct agctatccag acagagcagc taccctcagc tctagctgat      60
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gacgaatgct atgggctgca gatgacttct tagaggattt gcctttgag caaataggga     1380
atctaaggga ggaaattatc aactgtgcac aaggaaaaaa atagatatgt gaaaggttca    1440
cgtaaatttc ctcacatcac agaagattaa aattcagaaa ggagaaaaca cagaccaaag    1500
agaagtatct aagaccaaag ggatgtgttt tattaatgtc taggatgaag aaatgcatag    1560
aacattgtag tacttgtaaa taactagaaa taacatgatt tagtcataat tgtgaaaaat    1620
agtaataatt tttcttggat ttatgttctg tatctgtgaa aaaataaatt tcttataaaa    1680
ctcggaaaaa aaaaaaaaaa aaaaaaaaaa aaaa                                1714
```

601067066F1 NIH_MGC_10 Homo sapiens cDNA clone IMAGE:3453257 5', mRNA sequence.

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gttgacatga gttgtattaa ttggtgactg gaagtccagg atctgttgag gaagtcagtg     120
acccttaaat tcaggaacac tgccttggaa ggtggtggac ctttaaaaca gaagcttctc     180
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caataatgtt ttcttcttct tttctagata gaaactatat gtatctcgtg gatctgccag     360
taccagcctt ccaaatgaaa ctctttcaga gttagagaca cctggaaata ctcacttaca     420
ccaccaaaca ctggggccac cacatcgata cctgcagcat ctttagtcaa gttggaggag     480
aaagacaaca cttggtctaa gacacggcag caagacatcc ctgcatatgt tccagataaa     540
aatgaaagct gtcacaccca cttgcctccc caatctgtta aacagcttcg tgtctagtat     600
gagctcagta ctttgcctgt gaaaatccca gaagcccccg ctgtcaatgg ttccccatcc     660
aaccctgttt gctcctgtgt aacagtcaga tgatgactaa taataaaact gtacttttg      720
gaaaaaaaca aaaggggggc ggcaaaagac cccgag                               756
```

Human glutamate receptor subunit (GluH1) mRNA, complete cds.

```
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aatgcaaaaa ggaatatgca gcacattttt gccttcttct gcaccggttt cctaggcgcg     120
gtagtaggtg ccaatttccc caacaatatc cagatcgggg gattatttcc aaaccagcag     180
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atgctgacct ccttttgtgg ggccctccac gtctgcttca ttacgccgag ctttcccgtt     420
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aacatcttga caaccacaga ggagggatac cggatgctct ttcaggacct ggagaagaaa     660
aaggagcggc tggtggtggt ggactgtgaa tcagaacgcc tcaatgctat cttgggccag     720
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cttttctgtt tgctaagtga ggatgaaaaa ataacactgt actgcaataa ggggagagta    3060
accctgtcta atgaaacctg tgtctctgag agtagagtca ctggaacact aatgaggaaa    3120
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```

zn32e02.s1 Stratagene endothelial cell 937223 Homo sapiens cDNA clone IMAGE:549146 3', mRNA sequence.

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tattaatttg aggaaaatac accaaaatac attaagtaaa ttatttaaga tcatagagct   180
tgtaagtgaa aagataaaat ttgacctcag aaactctgag cattaaaaat ccactattag   240
caaataaatt actatggact tcttgcttta attttgtgat gaatatgggg tgtcactggt   300
aaaccaacac attctgaagg atacattact tagtgataga ttcttatgta ctttgctaga   360
taacatggat atgagttgac aagtttctct ttcttcaatc ttttaagggg cagaggaaat   420
gaggaagaaa agaaaaggaa ttacagcaat actggttcct tcctatagga aggattagat   480
atgtttcctt tgccaaatat aaaaanaatt aataatggtt accaccagtg aacccnaggt   540
attagggaaa taatggtcca gcatcncttg ccagaaaggg gtaagatggt tatgggtgaa   600
c                                                                   601
```

Homo sapiens mRNA expressed in osteoblast, complete cds.

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gaacaatgga agtgacaaca agattgacat ggaatgatga aaatcatctg cgcaactgct     180
tggaaatgtt tctttgagtc ttctctataa gtctagtgtt catggaggta gcattgaaga     240
tatggttgaa agatgcagcc gtcagggatg tactataaca atggcttaca ttgattacaa     300
tatgattgta gcctttatgc ttggaaatta tattaattta cgtgaaagtt ctacagagcc     360
aaatgattcc ctatggtttt cacttcaaaa gaaaaatgac accactgaaa tagaaacttt     420
actcttaaat acagcaccaa aaattattga tgagcaactg gtgtgtcgtt tatcgaaaac     480
ggatattttc attatatgtc gagataataa aatttatcta gataaaatga taacaagaaa     540
cttgaaacta aggttttatg gccaccgtca gtatttggaa tgtgaagttt ttcgagttga     600
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tattcttttg gtgggtccag ttgggtctgg aaagtccagt tttttcaatt cagtcaagtc     780
tatttttcat ggccatgtga ctggccaagc cgtagtgggg tctgatacca ccagcataac     840
cgagcggtat aggatatatt ctgttaaaga tggaaaaaat ggaaaatctc tgccatttat     900
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tcacattcac tttaaatttt tctgtatata gaaaggaaaa ctagcctggg caacatgatg    2040
aaaccccatc tccactgc                                                  2058
```

DE wy59c01.x1 Soares_NSF_F8_9W_OT_PA_P_S1 Homo sapiens cDNA clone
DE IMAGE:2552832 3', mRNA sequence.

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aaatactgaa cactgagttt taatactgta atacatttca atataaaata agaggtgaat     480
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atgtaagctc tgatttc                                                    557
```

Homo sapiens mRNA for C11ORF25 gene

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```

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agctgtttca ttgtttgttt ttgtcaagca tattcacttt cctccttgtc ctctgattct  5580
gagcaaaggg cctcagactc tgaacttccc tcaagtgccg ttgttatgtg aactcttcca  5640
ttcagattcc agagaggttc tcatgctccc ccccccctcct tatttgtagc aatcgtagca  5700
actaattcca ctaagtacaa gggagttttt tacactcctc cattttata gcatctgcat  5760
ttttttttt tgttaggtac atgtatacac ctgcctgagt ataaatactc tctctaccta  5820
```

```
ataataacat caaccaacat cttttccaaa ttagggccac agaacagcaa catttgtctg      5880
acagtagtat aaagaataat gatagctcta tccttaagaa gtatttcctt tccttttat       5940
atagtcccgt tagggtttaa aaccatattg atcaactaga aagaaaaata tgaaaagaga      6000
aaaatatttt aatttaaaaa ttgtaataca ttgatttata aaatgccttc tctgatactt      6060
ttgaaacaga tgtgaaaaac agaaaaagaa aaaattgtct gaaatgttta ttttgcaaaa      6120
cagtgcaata gaatctagtt atgccttcat cactgttgac agtaaatact gacagcccct      6180
tgcagtgtgt tagttttaga tcactctgtt ttagttgaga gaaatgtttt atatcatggt      6240
ttttatatga atacaaatta tttctcaaag atttatagca cacactattc tcaggaattc      6300
tgtattacat gaatgctgct tatatatttt catattctaa cttgtctttt caagcaaata      6360
actaatatat atgtgcatgc agtctgcctt gacaagttgt tccaagctga agagctttca      6420
ctgtacaatg tgtggaaaat caccatagat catggctgaa atagtttgta attgtctgag      6480
tctgtgcacg tacttttaga taaaatgctg ctgagtgact gcatgatgag atacaacttc      6540
tgaatgctgc acattcttcc aaaatgatcc ttagcacaat ctattgtatg atggaatgaa      6600
tagaaaactt tttcactcaa taaattatta tttgatatgg t                         6641
```

Homo sapiens isopentenyl-diphosphate delta isomerase, mRNA (cDNA clone

```
gtgttctaga acagatcaga cattttgtaa tgatgcctga aataaacact aaccacctcg      60
acaagcaaca ggttcaactc ctggcagaga tgtgtatcct tattgatgaa aatgacaata     120
aaattggagc tgagaccaag aagaattgtc acctgaacga gaacattgag aaaggattat     180
tgcatcgagc ttttagtgtc ttcttattca acaccgaaaa taagcttctg ctacagcaaa     240
gatcagatgc taagattacc tttccaggtt gttttacgaa tacgtgttgt agtcatccat     300
taagcaatcc agccgagctt gaggaaagtg acgcccttgg agtgaggcga gcagcacaga     360
gacggctgaa agctgagcta ggaattccct tggaagaggt tcctccagaa gaaattaatt     420
atttaacacg aattcactac aaagctcagt ctgatggtat ctggggtgaa catgaaattg     480
attacatttt gttggtgagg aagaatgtaa ctttgaatcc agatcccaat gagattaaaa     540
gctattgtta tgtgtcaaag gaagaactaa aagaacttct gaaaaaagca gccagtggtg     600
aaattaagat aacgccatgg tttaaaatta ttgcagcgac ttttctcttt aaatggtggg     660
ataacttaaa tcatttgaat cagtttgttg accatgagaa aatatacaga atgtgaatat     720
gtaggtaaat gattacagaa aaatttatct gcttaacaaa cttagaatga ctttttcctt     780
ttaaatttag ttctatcatt aatttatcat taaatttagt tctatcattt ggtactatca     840
ttaatgtatt atatacactg atactttaaa acttgtgtgg aaaaaactaa cttataattt     900
tgtatcacac accctggata tgtgttctgt ttctaagcga catttgtgag agattattgt     960
aaaatgagag cgagcaaata aaacttaatt taatctttgc agatacatac ttatgggaaa    1020
tttgaacaaa tgagtgaaac tctgtgtttt tagtaggctg tgataaacat ttccggagca    1080
cttgcagagg acttgctatt tgccaggtgc tttatgtatc attaaatttt tctcatagtt    1140
cagaaaaatg tgcaaaggaa actattgtct cgctccttca aaacagtctt aattaacttt    1200
catattagca gattaaacta gcagagcagg ttcaagggaa attaaatgat atggacccta    1260
atttgtatca ttctgagttg attgtgtggt ttattcattc tggaaacatg ttgatactta    1320
cagtcagcca ctgcttttga taagtgatat tgattaggtt gaatcttctt gtaaatagta    1380
tttaccagtt agcaaagtct gtgttttcag aattacagtg agcacagagg tgttcataaa    1440
atgggaattg agtcccactc ggtaagagtt gcttaaactt gacactgttg acatttgggc    1500
tggataaaac ccctgtggtg gggtctgtgc tgtgcattgc aggatggtga gcagcgtccc    1560
tctcatgtga cacccacagt tatgccggat gttgccagat gcccctaggg gacagagtca    1620
acccccaact gaggaccact gtcctacaga gtcaggaaat attgtaggga gaaaaaaata    1680
acaacaacaa aggcctgtgt taatgttaaa tagatgagat tatggaatgt gtatattaat    1740
gttaaaaatt gtaccttgat caatgtactt tttataaact tgccatagat atctcagatt    1800
tgaaacctca agacagattt attattctta aatgctgtat gataatgaag aaaaataaaa    1860
atttatttct tgcaaagtta caaaaaaaaa aaaaaaaaaa aaaaaaaaaa a             1911
```

Human prostaglandin endoperoxide synthase mRNA, complete cds.

```
gcgccatgag ccggagtctc ttgctccggt tcttgctgtt cctgctcctg ctcccgccgc      60
tccccgtcct gctcgcggac ccaggggcgc ccacgccagt gaatccctgt tgttactatc     120
catgccagca ccagggcatc tgtgtccgct tcggccttga ccgctaccag tgtgactgca     180
cccgcacggg ctattccggc cccaactgca ccatccctgg cctgtggacc tggctccgga     240
attcactgcg gcccagcccc tctttcaccc acttcctgct cactcacggg cgctggttct     300
gggagtttgt caatgccacc ttcatccgag agatgctcat gcgcctggta ctcacagtgc     360
gctccaacct tatccccagt ccccccacct acaactcagc acatgactac atcagctggg     420
agtctttctc caacgtgagc tattacactc gtattctgcc ctctgtgcct aaagattgcc     480
ccacacccat gggaaccaaa gggaagaagc agttgccaga tgcccagctc ctggcccgcc     540
gcttcctgct caggaggaag ttcatacctg acccccaagg caccaacctc atgtttgcct     600
tctttgcaca acacttcacc caccagttct tcaaaacttc tggcaagatg ggtcctggct     660
tcaccaaggc cttgggccat ggggtagacc tcggccacat ttatggagac aatctggagc     720
gtcagtatca actgcggctc tttaaggatg ggaaactcaa gtaccaggtg ctggatggag     780
aaatgtaccc gccctcggta gaagaggcgc ctgtgttgat gcactacccc cgaggcatcc     840
cgccccagag ccagatggct gtgggccagg aggtgtttgg gctgcttcct gggctcatgc     900
tgtatgccac gctctggcta cgtgagcaca accgtgtgtg tgacctgctg aaggctgagc     960
accccacctg gggcgatgag cagcttttcc agacgacccg cctcatcctc ataggggaga    1020
ccatcaagat tgtcatcgag gagtacgtgc agcagctgag tggctatttc ctgcagctga    1080
```

```
aatttgaccc agagctgctg ttcggtgtcc agttccaata ccgcaaccgc attgccatgg      1140
agttcaacca tctctaccac tggcaccccc tcatgcctga ctccttcaag gtgggctccc      1200
aggagtacag ctacgagcag ttcttgttca acacctccat gttggtggac tatggggttg      1260
aggccctggt ggatgccttc tctcgccaga ttgctggccg gatcggtggg ggcaggaaca      1320
tggaccacca catcctgcat gtggctgtgg atgtcatcag ggagtctcgg gagatgcggc      1380
tgcagccctt caatgagtac cgcaagaggt ttggcatgaa accctacacc tccttccagg      1440
agctcgtagg agagaaggag atggcagcag agttggagga attgtatgga gacattgatg      1500
cgttggagtt ctaccctgga ctgcttcttg aaaagtgcca tccaaactct atctttgggg      1560
agagtatgat agagattggg gctccctttt ccctcaaggg tctcctaggg aatcccatct      1620
gttctccgga gtactggaag ccgagcacat ttggcggcga ggtgggcttt aacattgtca      1680
agacggccac actgaagaag ctggtctgcc tcaacaccaa gacctgtccc tacgtttcct      1740
tccgtgtgcc ggatgccagt caggatgatg ggcctgctgt ggagcgacca tccacagagc      1800
tctgaggggc aggaaagcag cattctggag gggagagctt tgtgcttgtc attccagagt      1860
gctgaggcca gggctgatgg tcttaaatgc tcattttctg gtttggcatg gtgagtgttg      1920
gggttgacat ttagaacttt aagtctcacc cattatctgg aatattgtga ttctgtttat      1980
tcttccagaa tgctgaactc cttgttagcc cttcagattg ttaggagtgg ttctcatttg      2040
gtctgccaga atactgggtt cttagttgac aacctagaat gtcagatttc tggttgattt      2100
gtaacacagt cattctagga tgtggagcta ctgatgaaat ctgctagaaa gttagggggt      2160
tcttattttg cattccagaa tcttgacttt ctgattggtg attcaaagtg ttgtgttccc      2220
tggctgatga tccagaacag tggctcgtat cccaaatctg tcagcatctg gctgtctaga      2280
atgtggattt gattcatttt cctgttcagt gagatatcat agagacggag atcctaaggt      2340
ccaacaagaa tgcattccct gaatctgtgc ctgcactgag agggcaagga agtggggtgt      2400
tcttcttggg acccccacta agaccctggt ctgaggatgt agagagaaca ggtgggctgt      2460
attcacgcca ttggttggaa gctaccagag ctctatcccc atccaggtct tgactcatgg      2520
cagctgtttc tcatgaagct aataaaattc gccc                                  2554
```

602381868F1 NIH_MGC_93 Homo sapiens cDNA clone IMAGE:4499393 5', mRNA sequence.

```
tgtgaataga caagaagctg tactatatgt gctctctcag tggcaacaat gaagttttgc     60
aattctagaa cttggatttt ttttttaaca aaagtcccaa aacaccaaaa atgtaaacaa    120
gataagagat taatattgta gtgatgtaat ttaattaaag ttatattttg ggttaatttt    180
aacaactgaa gtcttattgt tgaaacttat tttcaacaaa actgtgcagt taaatttgta    240
tacgtattca catactgaaa gatgaaccgt taaaatagca cttaatttgt gtttcttcaa    300
tatgtcttga tatactttgt gcaattaata ttacacatgt aagttgtatg gcagtttaca    360
gaactcaatg acttgtcatg aggttttcat atgagctaca cattgtgtac attgatggtt    420
ttttatttt acataaatcc attctgtcat tttcaacttt atatataaat ctccaatgtt    480
atgggaaaca atagattgac acataatttt taaaaattat attgtaaaat ttctctatgg    540
tgaataaagt cttttaatat aaaaaaaaaa aaaaaaaaaa gaaacaaaaa aagaaaaaaa    600
aaaaaaaaaa aaaaaaaaaa agggggggggg ggaaaaaaaa accacggggg gcacaaatct    660
atccgccacc cacgtttaga tcaaaggggc cccaagagag agacaaaaga aagcgacggc    720
gacacaacaa ccgggggcac acgcgtacga ctagggagag cacaatcgcg gtagtaggac    780
acacacaaaa aacgagaaca aacaggaccg tgacaccacc tgcgattgcc taataaaaag    840
gcagaaacgg cacgcacagc gacgagcacg cagcagaaac accacacgca gcaccatgta    900
c                                                                    901
```

Homo sapiens mRNA for quinolinate phosphoribosyl transferase, complete cds.

```
atggacgctg aaggcctggc gctgctgctg ccgcccgtca ccctggcagc cctggtggac      60
agctggctcc gagaggactg cccagggctc aactacgcag ccttggtcag cggggcaggc     120
ccctcgcagg cggcgctgtg ggccaaatcc cctggggtac tggcagggca gcctttcttc     180
gatgccatat ttacccaact caactgccaa gtctcctggt tcctccccga gggatcgaag     240
ctggtgccgg tggccagagt ggccgaggtc cggggccctg cccactgcct gctgctgggg     300
gaacgggtgg ccctcaacac gctggcccgc tgcagtggca ttgccagtgc tgccgccgct     360
gcagtggagg ccgccagggg ggccggctgg actgggcacg tggcaggcac gaggaagacc     420
acgccaggct tccggctggt ggagaagtat gggctcctgg tgggcggggc cgcctcgcac     480
cgctacgacc tgggagggct ggtgatgttg aaggataacc atgtggtgcc ccccggtggc     540
gtggagaagg cggtgcgggc ggccagacag gcggctgact tcgctctgaa ggtggaagtg     600
gaatgcagca gcctgcagga ggtcgtccag gcagctgagg ctggcgccga ccttgtcctg     660
ctggacaact tcaagccaga ggagctgcac cccacggcca ccgcgctgaa ggcccagttc     720
ccgagtgtgg ctgtggaagc cagtgggggc atcaccctgg acaacctccc ccagttctgc     780
gggccgcaca tagacgtcat ctccatgggg atgctgaccc aggcggtccc agcccttgat     840
ttctccctca agctgtttgc caaagaggtg gctccagtgc ccaaaatcca ctag           894
```

Homo sapiens mRNA for cytochrome P-450 HFLa, complete cds.

```
gtgatggatc tcatcccaaa cttggccgtg gaaacctggc ttctcctggc tgtcagcctg      60
atactcctct atctatatgg aacccgtaca catggacttt ttaagaagct tggaattcca     120
gggcccacac ctctgccttt tttgggaaat gctttgtcct tccgtaaggg ctattggacg     180
tttgacatgg aatgttataa aaagtataga aaagtctggg gtatttatga ctgtcaacag     240
cctatgctgg ctatcacaga tcccgacatg atcaaaacag tgctagtgaa agaatgttat     300
tctgtcttca caaaccggag gcctttcggg ccagtgggat ttatgaaaaa tgccatctct     360
atagctgagg atgaagaatg gaagagaata cgatcattgc tgtctccaac attcaccagc     420
ggaaaactca aggagatggt ccctatcatt gcccagtatg gagatgtgtt ggtgagaaat     480
ctgaggcggg aagcagagac aggcaagcct gtcaccttga aacacgtctt tggggcctac     540
agcatggatg tgatcactag cacatcattt ggagtgagca tcgactctct caacaatcca     600
caagacccct ttgtggaaaa caccaagaag cttttaagat ttaatccatt agatccattc     660
gttctctcaa taaaagtctt tccattcctt accccaattc ttgaagcatt aaatatcact     720
gtgtttccaa gaaaagttat aagttttcta acaaaatctg taaaacagat aaaagaaggt     780
cgcctcaaag agacacaaaa gcaccgagtg gatttccttc agctgatgat tgactctcag     840
aattcaaaag actctgagac ccacaaagct ctgtctgatc tggagctcat ggcccaatca     900
attatcttta tttttgctgg ctatgaaacc acgagcagtg ttctctcctt cattatatat     960
gaactggcca ctcaccctga tgtccagcag aaagtgcaga aggaaattga tacagtttta    1020
cccaataagg caccacccac ctatgatact gtgctacagt tggagtatct tgacatggtg    1080
gtgaatgaaa cactcagatt attcccagtt gctatgagac ttgagagggt ctgcaaaaaa    1140
gatgttgaaa tcaatgggat gtttattccc aaaggggtgg tggtgatgat tccaagctat    1200
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cttcagaact tctccttcaa accttgtaaa gaaacacaga tccccctgaa attacgcttt    1440
ggaggacttc ttctaacaga aaaacccatt gttctaaagg ctgagtcaag ggatgagacc    1500
gtaagtggag cctgatttcc ctaaggactt ctggtttgct ctttaagaaa gctgtgcccc    1560
agaacaccag agacctcaaa ttactttaca aatagaaccc tgaaatgaag acgggcttca    1620
tccaatgtgc tgcataaata atcagggatt ctgtacgtgc attgtgctct ctcatggtct    1680
gtatagagtg ttatacttgg taatatagag gagatgacca aatcagtgct ggggaagtag    1740
atttggcttc tctgcttctc ataggactat ctccaccacc cccagttagc accattaact    1800
cctcctgagc tctgataaca taattaacat ttctcaataa tttcaaccac aatcattaat    1860
aaaaatagga attattttga tggctctaac agtgacattt atatcatgtg ttatatctgt    1920
agtattctat agtaagcttt atattaagca aatcaataaa aacctcttta c              1971
```

Human mRNA for endothelin converting enzyme, complete cds.

```
atgcggggcg tgtggccgcc cccggtgtcc gccctgctgt cggcgctggg gatgtcgacg      60
tacaagcggg ccacgctgga cgaggaggac ctggtggact cgctctccga gggcgacgca     120
taccccaacg gcctgcaggt gaacttccac agcccccgga gtggccagag gtgctgggct     180
gcacggaccc aggtggagaa gcggctggtg gtgttggtgg tacttctggc ggcaggactg     240
gtggcctgct tggcagcact gggcatccag taccagacaa gatccccctc tgtgtgcctg     300
agcgaagctt gtgtctcagt gaccagctcc atcttgagct ccatggaccc cacagtggac     360
ccctgccatg acttcttcag ctacgcctgt gggggctgga tcaaggccaa cccagtccct     420
gatggccact cacgctgggg gaccttcagc aacctctggg aacacaacca agcaatcatc     480
aagcacctcc tcgaaaactc cacggccagc gtgagcgagg cagagagaaa ggcgcaagta     540
tactaccgtg cgtgcatgaa cgagaccagg atcgaggagc tcagggccaa acctctaatg     600
gagttgattg agaggctcgg gggctggaac atcacaggtc cctgggccaa ggacaacttc     660
caggacaccc tgcaggtggt caccgcccac taccgcacct caccttctt ctctgtctat      720
gtcagtgccg attccaagaa ctccaacagc aacgtgatcc aggtggacca gtctggcctg     780
ggcttgccct cgagagacta ttacctgaac aaaactgaaa acgagaaggt gctgaccgga     840
tatctgaact acatggtcca gctggggaag ctgctgggcg gcggggacga ggaggccatc     900
cggccccaga tgcagcagat cttggacttt gagacggcac tggccaacat caccatccca     960
caggagaagc gccgtgatga ggagctcatc taccacaaag tgacggcagc cgagctgcag    1020
accttggcac ccgccatcaa ctggttgcct tttctcaaca ccatcttcta ccccgtggag    1080
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ctcatcaaca ccaccgacag atgcctgctc aacaactaca tgatctggaa cctggtgcgg    1200
aaaacaagct ccttccttga ccagcgcttt caggacgccg atgagaagtt catggaagtc    1260
atgtacggga ccaagaagac ctgtcttcct cgctggaagt tttgcgtgag tgacacagaa    1320
aacaacctgg gctttgcgtt gggccccatg tttgtcaaag caaccttcgc cgaggacagc    1380
aagagcatag ccaccgagat catcctggag attaagaagg catttgagga aagcctgagc    1440
accctgaagt ggatggatga ggaaacccga aaatcagcca aggaaaaggc cgatgccatc    1500
tacaacatga taggataccc caacttcatc atggatccca aggagctgga caaagtgttt    1560
aatgactaca ctgcagttcc agacctctac tttgaaaatg ccatgcggtt tttcaacttc    1620
tcatggaggg tcactgccga tcagctcagg aaagccccca acagagatca gtggagcatg    1680
accccgccca tggtgaacgc ctactactcg cccaccaaga atgagattgt gtttccggcc    1740
gggatcctgc aggcaccatt ctacacacgc tcctcaccca aggccttaaa ctttggtggc    1800
ataggtgtcg tcgtgggcca tgagctgact catgcttttg atgatcaagg acgggagtat    1860
gacaaggacg ggaacctccg gccatggtgg aagaactcat ccgtggaggc cttcaagcgt    1920
cagaccgagt gcatggtaga gcagtacagc aactacagcg tgaacgggga gccggtgaac    1980
gggcggcaca ccctgggggа gaacatcgcc gacaacgggg gtctcaaggc ggcctatcgg    2040
gcttaccaga actgggtgaa gaagaacggg gctgagcact cgctccccac cctgggcctc    2100
accaataacc agctcttctt cctgggcttt gcacaggtct ggtgctccgt ccgcacacct    2160
gagagctccc acgaaggcct catcaccgat ccccacagcc cctctcgctt ccgggtcatc    2220
ggctccctct ccaattccaa ggagttctca gaacacttcc gctgcccacc tggctcaccc    2280
atgaacccgc ctcacaagtg cgaagtctgg taaggacgaa gcggagagag ccaagacgga    2340
ggaggggaag gggctgagga cgagaccccc atccagcctc cagggcattg ctcagcccgc    2400
ttggccacc                                                           2409
```

602386668F1 NIH_MGC_93 Homo sapiens cDNA clone IMAGE:4515521 5', mRNA

```
gcagaatgga agcttagagg aacttgcctg tgagcgctgg tcttgtgttg gtttgtgatg      60
taacgatctt gctggggttt tttgcttgtt ttgagggaaa tgtcttggag taaattttaa     120
gttcctggag ttaatttgtt ttacaggaat ttgtttttta aaaaaatagg atcattctga     180
acttggaatg acccccttat atattttctg aaaatgaaaa cagttacatg aaaaaaattt     240
ccaatgaaga tgtcagcatt ttatgaaaaa ccagaagtta ttagatgaaa gcagcgagtg     300
aatctttaaa acagacttga tcacgcacac acaataagtc tttctctccg aaaccggaag     360
taaatctata tctgttagaa ataatgtagc caaaagaatg taaatttgag gatttttgc      420
caatagttta tagaaaatat atgaaccaaa gtgatttgag tttgtaaaaa tgtaaaatag     480
tatgaacaaa atttgcactc taccagattt gaacatctag tgaggttcac attcatacta     540
agttttcaac attgtgttct tttggcattc atttttact tttattaaag gttcaaaacc      600
aaaaaagaaa aaaag                                                      615
```

Homo sapiens mRNA for Rev-ErbAalpha protein (hRev gene)

```
ccgttgcctc aacgtccaac ccttctgcag ggctgcagtc cggccacccc aagaccttgc      60
tgcagggtgc ttcggatcct gatcgtgagt cgcggggtcc actccccgcc cttagccagt     120
gcccaggggg caacagcggc gatcgcaacc tctagtttga gtcaaggtcc agtttgaatg     180
accgctctca gctggtgaag acatgaccac cctggactcc aacaacaaca caggtggcgt     240
catcacctac attggctcca gtggctcctc cccaagccgc accagccctg aatccctcta     300
tagtgacaac tccaatggca gcttccagtc cctgacccaa ggctgtccca cctacttccc     360
accatccccc actggctccc tcacccaaga cccggctcgc tcctttggga gcattccacc     420
cagcctgagt gatgacggct ccccttcttc ctcatcttcc tcgtcgtcat cctcctcctc     480
cttctataat gggagccccc ctgggagtct acaagtggcc atggaggaca gcagccgagt     540
gtcccccagc aagagcacca gcaacatcac caagctgaat ggcatggtgt tactgtgtaa     600
agtgtgtggg gacgttgcct cgggcttcca ctacggtgtg ctcgcctgcg agggctgcaa     660
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Homo sapiens insulin induced protein 1 (INSIG1) gene, complete cds.

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acgtgtgaga tgtcccgaga gaagggttct ccattcattt cagtgctgcc tggaggaaac    11820
tcggcaatga tttcttcagt tgtgaagttc ctttcgggtt acaacctcca ctggaaccct    11880
caaccttcga aatactccag ttttgggggt tggggccatt tacttataaa tttaccgccg    11940
ggtttttgga atctacatgt cttgggggcg ggctcaaatt cttcgaaagt ggttggatta    12000
aaa                                                                  12003
```

yy35b09.s1 Soares melanocyte 2NbHM Homo sapiens cDNA clone IMAGE:273209 3', mRNA sequence.

```
ncagcatttt tcggcctctt tatttagaac ccggcggacg aggggccggg gcagtggtac        60
agacggctca ggaaccattt taacagactt gtcttcaagt ttcagataaa cacagtcata       120
ataagagaga cagcgaaanc cgaagagact gcaagctaga tgggcatgta tggcagctac       180
agcttgtgag tgacccccct ccccagagtc cgcgatgaaa ataaagttac acttgtcaat       240
aaccagatgt gggagatgga gagtgccttt gnantaacca ataaccgagc tagtgcgtgg       300
cagagcggtc cacgccttgg acataaatag aaaatataag ttagtataac tttaaaaact       360
ttttgtacaa atatacatgg tttttttant ttttccnttt ttttttcctt tttccttttt       420
ttgcactgag tttcagcaga gattaaacat tttatat                               457
```

Homo sapiens tumor rejection antigen (gp96) 1, mRNA (cDNA clone

```
gaggatccga acccaggggt ggggggtgga ggcggctcct gcgatcgaag gggacttgag      60
actcaccggc cgcacgccat gagggccctg tgggtgctgg gcctctgctg cgtcctgctg     120
accttcgggt cggtcagagc tgacgatgaa gttgatgtgg atggtacagt agaagaggat     180
ctgggtaaaa gtagagaagg atcaaggacg gatgatgaag tagtacagag agaggaagaa     240
gctattcagt tggatggatt aaatgcatca caaataagag aacttagaga gaagtcggaa     300
aagtttgcct tccaagccga agttaacaga atgatgaaac ttatcatcaa ttcattgtat     360
aaaaataaag agattttcct gagagaactg atttcaaatg cttctgatgc tttagataag     420
ataaggctaa tatcactgac tgatgaaaat gctctttctg gaaatgagga actaacagtc     480
aaaattaagt gtgataagga gaagaacctg ctgcatgtca cagacaccgg tgtaggaatg     540
accagagaag agttggttaa aaaccttggt accatagcca aatctgggac aagcgagttt     600
ttaaacaaaa tgactgaagc acaggaagat ggccagtcaa cttctgaatt gattggccag     660
tttggtgtcg gtttctattc cgccttcctt gtagcagata aggttattgt cacttcaaaa     720
cacaacaacg atacccagca catctgggag tctgactcca atgaattttc tgtaattgct     780
gacccaagag gaaacactct aggacgggga acgacaatta cccttgtctt aaaagaagaa     840
gcatctgatt accttgaatt ggatacaatt aaaaatctcg tcaaaaaata ttcacagttc     900
ataaactttc ctatttatgt atggagcagc aagactgaaa ctgttgagga gcccatggag     960
gaagaagaag cagccaaaga agagaaagaa gaatctgatg atgaagctgc agcaagacga    1020
agatgaagaa atggatgtgg gaacagatga agaagaagaa acagcaaagg aatctacagc    1080
tgaaaaagat gaattgtaaa ttatactctc accatttgga tcctgtgtgg agagggaatg    1140
tgaaatttac atcatttctt tttgggagag acttgttttg gatgcccccc aatccccttc    1200
tcccctgcac tgtaaaatgt gggattatgg gtcacaggaa aaagtgggtt ttttagttga    1260
atttttttta acattcctca tgaatgtaaa tttgtactat ttaactgact attcttgatg    1320
taaaatcttg tcatgtgtat aaaaataaaa aagatcccaa ataaaaaaaa aaaaaaaaaa    1380
a                                                                    1381
```

Homo sapiens tumor suppressor deleted in oral cancer-related 1, mRNA (cDNA clone MGC:3779 IMAGE:3659410), complete cds.

```
gcgcgcaagg caccggtggc agcggcgacg gcagctgcga cagcaacccc tgctgggccg      60
aaactgggca gagcggagca gacgtctgaa gcagcgcgag tgaggcgcga gggtagcgcc     120
cgcgcccggg aagacccctc ggcgcgaacc ggcagcccag ccccgggtcc cggttcccaa     180
ggccccgcct ctagggcctg gggactaatc ggattgagag cgcgccggcc cgggccgcga     240
actcgccaat tgcggagggc ggtggccacc gcccaatccg gagcagacag gtgcgaggtc     300
cggaaggcgg aggccaatcg gcggcggttg cgacctgctg gggcaggtct cggccaataa     360
ggaggctcga gtgacatctt cgcgcaccaa tcgggagtga gggagcattc gtgcccgctc     420
gcccttccgg ccagacctct atttaccagg ggcgtgcagc ccgcttgcca atcagagcgc     480
ggctgagcgg ccccgcagcc aaccccccgag gagcggccgg ctggcgtccg ccgcgcccag     540
gagttgggga tgtcctacaa acccatcgcc cctgctccca gcagcacccc tggctccagc     600
acccctgggc cgggcacccc ggtccctaca ggaagcgtcc cgtcgccgtc gggctcagtg     660
ccaggagccg gcgctccttt cagaccgctg tttaacgact ttggaccgcc ttccatgggc     720
tacgtgcagg cgatgaagcc acccggcgcc cagggctccc agagcaccta cacggacctg     780
ctgtcagtca tagaggagat gggcaaagag atccggccta cctatgctgg cagcaagagc     840
gccatggagc gcctgaagag aggtatcatc catgcccggg ccctagtcag agagtgcctg     900
gcagagacag agcggaacgc ccgcacgtaa caggaagcgc ctcggcctca gcgtctggac     960
ctatccggcc actgcagagc acccgcttct ccctggcctt catcccgagt tgcactaacc    1020
atcctgggct tcctgtcctg tgtcccttgg tgggtcccct ccaggaacca aggagtggcc    1080
ctccaggtgg cagcactaag gacacccccc cacaacaaga gttagcagcg aggtccccat    1140
gagtcccacc catgacctgc cgacagtgtt gcccaccgga acttttgtgg cccctaccgc    1200
tcagcccttc ccagcacttc tcccactttg tcccgagcct ccttctcccc cagcaggggc    1260
acaggcctgg cacctccctg ccttgtgtcc tgagccatag tgactctttt atctgtgtgt    1320
cttttgctaa atatgccctt tttatattaa taaaagatga tttggagttg tgctctcaaa    1380
aaaaaaaaaa aaaaaaa                                                   1397
```

Homo sapiens TNFR-related death receptor-6 (DR6) mRNA, complete cds.

```
atggggacct ctccgagcag cagcaccgcc ctcgcctcct gcagccgcat cgcccgccga      60
gccacagcca cgatgatcgc gggctccctt ctcctgcttg gattccttag caccaccaca     120
gctcagccag aacagaaggc ctcgaatctc attggcacat accgccatgt tgaccgtgcc     180
accggccagg tgctaacctg tgacaagtgt ccagcaggaa cctatgtctc tgagcattgt     240
accaacacaa gcctgcgcgt ctgcagcagt tgccctgtgg ggacctttac caggcatgag     300
aatggcatag agaaatgcca tgactgtagt cagccatgcc catggccaat gattgagaaa     360
ttaccttgtg ctgccttgac tgaccgagaa tgcacttgcc cacctggcat gttccagtct     420
aacgctacct gtgcccccca tacggtgtgt cctgtgggtt ggggtgtgcg gaagaaaggg     480
acagagactg aggatgtgcg gtgtaagcag tgtgctcggg gtaccttctc agatgtgcct     540
tctagtgtga tgaaatgcaa agcatacaca gactgtctga gtcagaacct ggtggtgatc     600
aagccgggga ccaaggagac agacaacgtc tgtggcacac tcccgtcctt ctccagctcc     660
acctcacctt cccctggcac agccatcttt ccacgccctg agcacatgga aacccatgaa     720
gtcccttcct ccacttatgt tcccaaaggc atgaactcaa cagaatccaa ctcttctgcc     780
tctgttagac caaaggtact gagtagcatc caggaaggga cagtccctga caacacaagc     840
tcagcaaggg ggaaggaaga cgtgaacaag accctcccaa accttcaggt agtcaaccac     900
cagcaaggcc cccaccacag acacatcctg aagctgctgc cgtccatgga ggccactggg     960
ggcgagaagt ccagcacgcc catcaagggc cccaagaggg gacatcctag acagaaccta    1020
cacaagcatt ttgacatcaa tgagcatttg ccctggatga ttgtgctttt cctgctgctg    1080
gtgcttgtgg tgattgtggt gtgcagtatc cggaaaagct cgaggactct gaaaaagggg    1140
ccccggcagg atcccagtgc cattgtggaa aaggcagggc tgaagaaatc catgactcca    1200
acccagaacc gggagaaatg gatctactac tgcaatggcc atggtatcga tatcctgaag    1260
cttgtagcag cccaagtggg aagccagtgg aaagatatct atcagtttct ttgcaatgcc    1320
agtgagaggg aggttgctgc tttctccaat gggtacacag ccgaccacga gcgggcctac    1380
gcagctctgc agcactggac catccggggc cccgaggcca gcctcgccca gctaattagc    1440
gccctgcgcc agcaccggag aaacgatgtt gtggagaaga ttcgtgggct gatggaagac    1500
accacccagc tggaaactga caaactagct ctcccgatga gccccagccc gcttagcccg    1560
agccccatcc ccagccccaa cgcgaaactt gagaattccg ctctcctgac ggtggagcct    1620
tccccacagg acaagaacaa gggcttcttc gtggatgagt cggagcccct tctccgctgt    1680
gactctacat ccagcggctc ctccgcgctg agcaggaacg gttcctttat taccaaagaa    1740
aagaaggaca cagtgttgcg gcaggtacgc ctggaccccct gtgacttgca gcctatcttt    1800
gatgacatgc tccactttct aaatcctgag gagctgcggg tgattgaaga gattccccag    1860
gctgaggaca aactagaccg gctattcgaa attattggag tcaagagcca ggaagccagc    1920
cagaccctcc tggactctgt ttatagccat cttcctgacc tgctgtag                 1968
```

601848574F1 NIH_MGC_55 Homo sapiens cDNA clone IMAGE:4079202 5',,mRNA sequence.

```
acaatggtat agatttcaca acacaaaaag gacattggtg gatgttactg cacattttaa   60
attcttaaca ctaatttatc tgtataagtg tttatatgca tattttggga cataaacagt  120
ttatgtaaaa ttagtaatga atgatggcaa cgagggcact gttatcttcg ttgttttcaa  180
tgatcattta gcattcaatg atggaacagc tggtataaca taagtggtcg gcatgaaata  240
tttgagatcg aaacttctgt gccttgaaca gaacttatat cttagattct ctctcacatt  300
ttctgtggag ctggggttga ataggaacca gatgatgttc actgctgaaa ttccataatg  360
cttcccattg aagggaagtg agaaccagga aagctgcttt cacgtcatgt gccatccagt  420
actgacaggg aagaaagatg tagttttcca gtagtgatga atcacattat gaattacatt  480
tcttcttaag aagtaaaaac tcagaatgta ccatctgtgt ttcctttcag ttcattaaat  540
ggcatcataa cagatgactt gtgctaagtt caatagagtt accacatctt ttactattat  600
gcaaaaatat taactttaat gaaccattgc ttggacatga tttcctatac attaccattg  660
ggccgaatgt gttggtcata ctatcacgca ctaaacctgg gtgtttacac tgggcaccgc  720
gcttcaccgg gcataaggcg gacaacggtc ttaggcaaac tcgggtcctc gaaac       775
```

Homo sapiens clone PP1722 unknown mRNA.

```
gctgtgtggc ccaggctttt ctcaaactcc tgagggcaag cgatcctccc acctcagcct    60
cctgagtagc tgggactaca ggcatgtgcc actagacctg gctctaaaga catatatgac   120
acacgaaacc atttattttt catttcacaa tgtttattca catatatggt attagtattc   180
taatgtagtg atgcactcta aatttgcatt atatttccta gaacatctga acagagcata   240
ggaaattccc tattttgcca ttatcagttc taacaaaaat cttaaaagca ctttatcatt   300
tcatttccct gcactgtaat ttttttaaat gatcaaaaac agtatcatac caaggcttac   360
ttatattgga atactatttt agaaagttgt gggctgggtt gtatttataa atcttgttgg   420
tcagatgtct gcaatgagta aatttagcac cattatcagg aagctttctc accaatgaca   480
acttcattgg aagattttaa tgaaagtgta gcatactcta gggaaaaaat atgaatattt   540
tagcatctat gtattgaaaa ttatgttgaa taaatgtcag actatttttt acataacgtt   600
gcttctgttt aattttgtca cgttcagagg tgggggggtag gagatgtaag cccttgacag   660
caaaataatt ccttttgctt gatttcagac agttgcatca gctcctttgt tctgtgttca   720
tgttacactt atttaggtgg ctgaatccac agaggagcct gctggttcta atcggggaca   780
gtatcctgag gattcctcaa gtgatggttt aaggcaaagg gaagttcttc ggaacctttc   840
ttcccctgga tgggaaaaca tctcaaggcc tgaagctgcc cagcaggcat tccaaggcct   900
gggtcctggt ttctccggtt acacacccta tgggtggctt cagctttcct ggttccagca   960
gatatatgca cgacagtact acatgcaata tttagcagcc actgctgcat caggggcttt  1020
tgttccacca ccaagtgcac aagagatacc tgtggtctct gcacctgctc cagcccctat  1080
tcacaaccag tttccagctg aaaaccagcc tgccaatcag aatgctgctc ctcaagtggt  1140
tgttaatcct ggagccaatc aaaattttgcg gatgaatgca caaggtggcc ctattgtgga  1200
agaagatgat gaaataaatc gagattggtt ggattggacc tattcagcag ctacattttc  1260
tgtttttctc agtatcctct acttctactc ctccctgagc agattcctca tggtcatggg  1320
ggccaccgtt gttatgtacc tgcatcacgt tgggtggttt ccatttagac cgaggccggt  1380
tcagaacttc ccaaatgatg gtcctcctcc tgacgttgta aatcaggacc ccaacaataa  1440
cttacaggaa ggcactgatc ctgaaactga agaccccaac cacctccctc cagacaggga  1500
tgtactagat ggcgagcaga ccagcccctc ctttatgagc acagcatggc ttgtcttcaa  1560
gactttcttt gcctctcttc ttccagaagg ccccccagcc atcgcaaact gatggtgttt  1620
gtgctgtagc tgttggaggc tttgacagga atggactgga tcacctgact ccagctagat  1680
tgcctctcct ggacatggca atgatgagtt tttaaaaaac agtgtggatg atgatatgct  1740
tttgtgagca agcaaaagca gaaacgtgaa gccgtgatac aaattggtga acaaaaaatg  1800
cccaaggctt ctcatgtctt tattctgaag agctttaata tatactctat gtagtttaat  1860
aagcactgta cgtagaaggc cttaggtgtt gcatgtctat gcttgaggaa cttttccaaa  1920
tgtgtgtgtc tgcatgtgtg tttgtacata gaagtcatag atgcagaagt ggttctgctg  1980
gtacgatttg attcctgttg gaatgtttaa attacactaa gtgtactact ttatataatc  2040
aatgaaattg ctagacatgt tttagcagga cttttctagg aaagacttat gtataattgc  2100
tttttaaaat gcagtgcttt actttaaact aaggggaact ttgcggaggt gaaaaccttt  2160
gctgggtttt ctgttcaata aagttttact atgaatgaca aaaaaaaaaa aaaaaaa     2217
```

Homo sapiens hypothetical protein FLJ11259, mRNA (cDNA clone MGC:8787 IMAGE:3925141), complete cds.

```
gcaaaatcaa acctgctatt tcagcactcc tgtttttaac ttggtgtctt tagtgcttgg      60
attggtggga tgtttcggaa tgggcattgt cgccaatttt caggagttag ctgtgccagt     120
ggttcatgac gggggcgctc ttttggcctt tgtctgtggt gtcgtgtaca cgctcctaca     180
gtccatcatc tcttacaaat catgtcccca gtggaacagt ctctcgacat gccacatacg     240
gatggtcatc tctgccgttt cttgcgcagc tgtcatcccc atgattgtct gtgcttcact     300
aatttccata accaagctgg agtggaatcc aagagaaaag gattatgtat atcacgtagt     360
gagtgcgatc tgtgaatgga cagtggcctt tggttttatt ttctacttcc taactttcat     420
ccaagatttc cagagtgtca ccctaaggat atccacagaa atcaatggtg atatttgaag     480
aaagaagaat tcagtctcac tcagtgaatg tcgcaggcca tttctaaaag tgctacagag     540
gacagacagg gttttgaggc caccctgatt attgggatgc atctgcagca catccaggac     600
ttgaatttca ttacgagttc ctaatagttg tatttctaaa gatgtttcct agagaatgta     660
cagccttatg acactgtagt gatgttttta taattttcta agtagatttt tttatattaa     720
caaattcata tacagaaaaa ataaggtgtt acaaaaaatg gagagctctt atttttgtac     780
agattctgtc gttttttttt tatttgtgtg agatttatgg aaatacacta aatgagtaat     840
tcaggttcag tacatttatt acaaagtgaa atcaggggat attcatttgt aaatttttatt    900
cttagtgaat gaactgtata atttttttta tcaggagagc acttataaaa ttcaatttat     960
aaagatcata tacccaaatc ataaagattt agttgataca ttaacactaa gatactctga    1020
ttttttagcca aactaaacaa agtgcttcta ctgagaggcc tttataccac catgtacagt    1080
aattctaagt gaatacggaa gaccttggtt ttgaaattct gccaccttgt ttctccctgc    1140
tcatgaggtc gcacctttttg ctcttgctgc taattgccca ttcttagtgg gtgtaatgcc    1200
aggtggaatg gtttcaacaa gtcaggtgaa aaccatcctt tattgttgct ggcacaactt    1260
gatatatagt ctgactcaga actgaagctc acatctcaaa ttcatttcat gccagtaaat    1320
gtggcaaaga gaagaaaggc ccaagagcga gacaagaaga atggagaagg gggcagccaa    1380
gaagaacttc tgggttcagg gtactgttta tttgctcctt ctcttcatgc ctgtggctgg    1440
atgtcccaca acactataag aaatataagt caagcccttt gtgttaagca agaactacag    1500
actccatctt ttcacccaaa tcatgaatga ccaataaaaa gcaagttatt ccagaggaag    1560
aagcagccct tgaaaaataa ggcttaggct tgaaaggtga agagcaggaa ttctctcttt    1620
caaatcctag agcataaacc catgtgtggc caagtgagat cagccctcaa gggcacatgc    1680
caagggcaga gcagcccatg tagacagctt cggagggcat gggggtgtag ggagttcggg    1740
gtagctcctc attaactatt tgttgggtga gtaaaggggt gaggctcagt ggcaggtacc    1800
tctgcaatga caagctgcct cccctctatg tgtttagcat atgttattag aacatgtccg    1860
acacccctac cgctgccatt tgggcccttt aataaagcca agtagagaaa tctggcaata    1920
aaaggcaaat gtaagcatgc tttctttaag acgcatcata aatggttttc tttaagtgaa    1980
tggaagagtt tgacagagat acacctttgt aagaaaacat taagaatgct ggctggctgt    2040
ggtggctcac acctgtattc ccagcacttt gggaggccta ggcaggagga ttgcttgagc    2100
ctgggacttc gagaccagac tgggaaacat ggcaaaatcc catctctaca acaaaaatac    2160
aaaaattagc caagtgcggt ggtgtgcctg tagtcctagt tacttgggag gctgaggtgg    2220
gagaatcacc tgagcccagg aggtggaggc tgcagtgagc catgccaatg cactccagtc    2280
tgggcaacag agtgagaccc tgtctcaaaa ataaataaat aaataaatga ataaagagaa    2340
tgctaatcca aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaa                 2388
```

tq65c10.x1 NCI_CGAP_Lu19 Homo sapiens cDNA clone IMAGE:2213682 3' similar to SW:ENPL_HUMAN P14625 ENDOPLASMIN PRECURSOR ;, mRNA sequence.

```
tttttttcc tctactgcag cttcatcatc agattcttct ttctcttctt tggctgcttc     60
ttcttcctcc atgggctcct caacagtttc agtcttgctg ctccatacat aaataggaaa    120
gtttatgaac tgtgaatatt tttttgacga gatttttaat tgtatccaat tcaaggtaat    180
cagatgcttc ttcttttaag acaagggtaa ttgtcgttcc ccgtcctaga gtgtttcctc    240
ttgggtcagc aattacagaa aattcattgg agtcagactc ccagatgtgc tgagtatcgt    300
tgttgtgttt tgaagtgaca ataaccttat ctgctacaag gaaggcggaa tagaaaccga    360
caccaaactg gccaatcaat tcagaagttg actggccatc ttcctgtgct tcagtcattt    420
tgtttaaaaa ctcgcttgtc ccagatttgg ctatggtacc aaggttttta accaactctt    480
ctcggtcatt cctacaccgn tgtctgtgac atgcagcagg ttcttctcct tatcacactt    540
aattttgact tgtagttcct catttccaga aagagcattt tcatcagtca gtgatattag    600
ccttatctta tctaaagcat caaaagcaat tgaaatcagt tctctcaaga aaatctcttt    660
atttttatac aggaattggt gataggttca tcattctggt aactccgctt ggaaggcaac    720
ttttccgact ctctctaagt ctctaattgg gagcattaaa tcatcaactg atagcttctt    780
ctttctcgga ctacttcata tcccggcctt gactttctta cttttcccca aacccttttc    840
ttgcccatcc cataacttaa ttgcagcttg accgaccgaa gtaanaggac ccaaaggccc    900
aacccccagg ccccttgggg tgcgggcgaa attaatacct ctaatcaggg ccccccttggc    960
caatttgccc gggccaaatc ttattggggg ttaaaaaaaa attttattgt ttggggaaag   1020
ttcccccatc cccaaaaacc ccggaaaagg gaaggggggc gttaggggaa caatattggc   1080
tcctccctcn cccaaaancc ccgcctatta aaacccggga gggaaangtn ttccctctcc   1140
tctcaccccn c                                                       1151
```

Homo sapiens phosphoserine aminotransferase (PSA) mRNA, complete cds.

```
ccttggctga ctcaccgccc tcgccgccgc accatggacg cccccaggca ggtggtcaac     60
tttgggcctg gtcccgccaa gctgccgcac tcagtgttgt tagagataca aaaggaatta    120
ttagactaca aaggagttgg cattagtgtt cttgaaatga gtcacaggtc atcagatttt    180
gccaagatta ttaacaatac agagaatctt gtgcgggaat tgctagctgt tccagacaac    240
tataaggtga tttttctgca aggaggtggg tgcggccagt tcagtgctgt ccccttaaac    300
ctcattggct tgaaagcagg aaggtgtgcg gactatgtgg tgacaggagc ttggtcagct    360
aaggccgcag aagaagccaa gaagtttggg actataaata tcgttcaccc taaacttggg    420
agttatacaa aaattccaga tccaagcacc tggaacctca acccagatgc ctcctacgtg    480
tattattgcg caaatgagac ggtgcatggt gtggagtttg actttatacc cgatgtcaag    540
ggagcagtac tggtttgtga catgtcctca aacttcctgt ccaagccagt ggatgtttcc    600
aagtttggtg tgatttttgc tggtgcccag aagaatgttg gctctgctgg ggtcaccgtg    660
gtgattgtcc gtgatgacct gctggggttt gccctccgag agtgcccctc ggtcctggaa    720
tacaaggtgc aggctggaaa cagctccttg tacaacacgc ctccatgttt cagcatctac    780
gtcatgggct tggttctgga gtggattaaa aacaatggag gtgccgcggc catggagaag    840
cttagctcca tcaaatctca aacaatttat gagattattg ataattctca aggattctac    900
gtgtctgtgg gaggcatccg ggcctctctg tataatgctg tcacaattga agacgttcag    960
aagctggccg ccttcatgaa aaaatttttg gagatgcatc agctatgaac acatcctaac   1020
caggatatac tctgttcttg aacaacatac aaagtttaaa gtaac                   1065
```

Homo sapiens cDNA clone:ADBAPE04, 5'end, expressed in human adrenal gland.

```
aaagaaactg gttggtttta agaaaatagt ttcaagaagt tcaactatat tcttttagat      60
attatgtatt gttttactct gattaggtta ctgtgatagg catttattca tattctttct     120
ataccactgt cattaatata ttaaaaagat gtatgtgtta gactatcgaa agggccttat     180
tctctctttc tcatagactg accttctttt ggaatttctg agtcatttat tttccttagc     240
tttttccact caaattaagg gcaagcgaaa aagtaataat tcggcattct ttaagcctac     300
agaatgtgat tctttcactt ggttattaca ctggctcgtg gacagaacat tttgaaaagt     360
gaaagattta ttttggtaaa agattttgct ttacttttcg aagcattatt cttttaaaga     420
gtggtttact tcaacgattg aaacattttc ctattaaaat ttcattgtta gaatcacagg     480
agcgcaaaaa tggaacggtt gattgaaatn tactctttct gtgaagaaaa tcacagagtt     540
gttgcctcgt tgtagttggt gggccccgta gcatggatgc ctttgccaat gggttcatgt     600
gccacacaaa gcaaacagat ctgcatcgat cgcaatttct tgtgaacacg gattgcatgt     660
ccatatccct ttgcaggatt taaaatattt aaaatggcct gccttgagtg cgatgagcca     720
acttgcctac tggactccac ctgggtgacc aat                                  753
```

wd68f02.x1 NCI_CGAP_Lu24 Homo sapiens cDNA clone IMAGE:2336763 3', mRNA sequence.

```
tttctgtaca atacacattt attgagcact agatatatgc catgctagat gcaggtgacc        60
cagagcatca aggagcaata gtctggtggc agagacacac acaatgtcac tgtgatgtat       120
taaagcagtc agcaatagat gcagctcagg gcactgtggg gatatccaga ggcacagtac       180
cttctgcctg tcagtcaggg agggagagga gcacaggctg aaggagactg gaagacagca       240
gttggcctct gatagtggga ctggagagag atttctaagg gccacttctt gttttcaggg       300
actaggttgg gctagatatg gggctcagga tggacaaggc ttagagccag gttggagaag       360
atgaaagagc attactagag gagtggggag gcctaggcta tgctctttac tctgccattg       420
actgcgtgat cttgggcagg ccatgtaacc tctcagggct gtgcactccc ttatttgtaa       480
aactagaggg ctgggccagc atgtttt                                          507
```

H.sapiens LU gene for Lutheran blood group glycoprotein.

agtctccgcc gccgccgtga acatggagcc cccggacgca ccggcccagg cgcgcggggc 60
cccgcggctg ctgttgctcg cagtcctgct ggcggcgcac ccagatgccc aggcggaggt 120
gcgcttgtct gtacccccgc tggtggaggt gatgcgagga aagtctgtca ttctggactg 180
cacccctacg ggaacccacg accattatat gctggaatgg ttccttaccg accgctcggg 240
agctcgcccc cgcctagcct cggctgagat gcagggctct gagctccagg tcacaatgca 300
cgacacccgg ggccgcagtc ccccatacca gctggactcc caggggcgcc tggtgctggc 360
tgaggcccag gtgggcgacg agcgagacta cgtgtgcgtg gtgagggcag gggcggcagg 420
cactgctgag gccactgcgc ggctcaacgt gtttgcaaag ccagaggcca ctgaggtctc 480
ccccaacaaa gggacactgt ctgtgatgga ggactctgcc caggagatcg ccacctgcaa 540
cagccggaac gggaacccgg cccccaagat cacgtggtat cgcaacgggc agcgcctgga 600
ggtgcccgta gagatgaacc cagagggcta catgaccagc cgcacggtcc gggaggcctc 660
gggcctgctc tccctcacca gcaccctcta cctgcggctc cgcaaggatg accgagacgc 720
cagcttccac tgcgccgccc actacagcct gcccgagggc cgccacggcc gcctggacag 780
ccccaccttc cacctcaccc tgcactatcc cacggagcac gtgcagttct gggtgggcag 840
cccgtccacc ccagcaggct gggtacgcga gggtgacact gtccagctgc tctgccgggg 900
ggacggcagc cccagcccgg agtatacgct tttccgcctt caggatgagc aggaggaagt 960
gctgaatgtg aatctcgagg ggaacttgac cctggaggga gtgacccggg gccagagcgg 1020
gacctatggc tgcagagtgg aggattacga cgcggcagat gacgtgcagc tctccaagac 1080
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cctcagccgc acccagaact tcacgctgct ggtccaaggc tcgccagagc taaagacagc 1380
ggaaatagag cccaaggcag atggcagctg gagggaagga gacgaagtca cactcatctg 1440
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cgccctgagc cgcgatggca tctcctgtga agcctccaac ccccacggga acaagcgcca 1620
tgtcttccac ttcggcgccg tgagccccca gacctcccag gctggagtgg ccgtcatggc 1680
cgtggccgtc agcgtgggcc tcctgctcct cgtcgttgct gtcttctact gcgtgagacg 1740
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cctagaggct gtccctggac ctggagctgc aggcatcaga gaaccagccc tgctcacgcc 1980
atgcccgccc ccgccttccc tcttccctct tccctctccc tgcccagccc tcccttcctt 2040
cctctgccgg caaggcaggg acccacagtg gctgcctgcc tccgggaggg aaggagaggg 2100
agggtgggtg ggtgggaggg ggccttcctc cagggaatgt gactctccca ggccccagaa 2160
tagctcctgg acccaagccc aaggcccagc ctgggacaag gctccgaggg tcggctggcc 2220
ggagctattt ttacctcccg cctcccctgc tggtcccccc acctgacgtc ttgctgcaga 2280
gtctgacact ggattccccc ccctcacccc gcccctggtc ccactcctgc ccccgcccta 2340
cctccgcccc accccatcat ctgtggacac tggagtctgg aataaatgct gtttgtcaca 2400
tc 2402

Homo sapiens mRNA for calmegin, complete cds.

```
cgccggcggg actggtctga agagacgcgg ggacaaagtg gcaacgactt ggacatctga      60
gctgtcactg ccgaaaacag gccgcaagag agataatcaa tatgcatttc caagcctttt     120
ggctatgttt gggtcttctg ttcatctcaa ttaatgcaga atttatggat gatgatgttg     180
agacggaaga ctttgaagaa aattcagaag aaattgatgt taatgaaagt gaactttcct     240
cagagattaa atataagaca cctcaaccta taggagaagt atattttgca gaaacttttg     300
atagtggaag gttggctgga tgggtcttat caaaagcaaa gaaagatgac atggatgagg     360
aaatttcaat atacgatgga agatgggaaa ttgaagagtt gaaagaaaac caggtacctg     420
gtgacagagg actggtatta aaatctagag caaagcatca tgcaatatct gctgtattag     480
caaaaccatt catttttgct gataaaccct tgatagttca atatgaagta aattttcaag     540
atggtattga ttgtggaggt gcatacatta aactcctagc agacactgat gatttgattc     600
tggaaaactt ttatgataaa acatcctata tcattatgtt tggaccagat aaatgtggag     660
aagattataa acttcatttt atcttcagac ataaacatcc caaaactgga gttttcgaag     720
agaaacatgc caaacctcca gatgtagacc ttaaaaagtt ctttacagac aggaagactc     780
atctttatac ccttgtgatg aatccagatg acacatttga ggtgttagtt gatcaaacag     840
ttgtaaacaa aggaagcctc ctagaggatg tggttcctcc tatcaaacct cccaaagaaa     900
ttgaagatcc caatgataaa aaacctgagg aatgggatga aagagcaaaa attcctgatc     960
cttctgccgt caaaccagaa gactgggatg aaagtgaacc tgcccaaata gaagattcaa    1020
gtgttgttaa acctgctggc tggcttgatg atgaaccaaa atttatccct gatcctaatg    1080
ctgaaaaacc tgatgactgg aatgaagaca cggatggaga atgggaggca cctcagattc    1140
ttaatccagc atgtcggatt gggtgtggtg agtggaaacc tcccatgata gataacccaa    1200
aatacaaagg agtatggaga cctccactgg tcgataatcc taactatcag ggaatctgga    1260
gtcctcgaaa aattcctaat ccagattatt tcgaagatga tcatccattt cttctgactt    1320
ctttcagtgc tcttggttta gagctttggt ctatgacctc tgatatctac tttgataatt    1380
ttattatctg ttcggaaaag gaagtagcag atcactgggc tgcagatggt tggagatgga    1440
aaataatgat agcaaatgct aataagcctg gtgtattaaa acagttaatg gcagctgctg    1500
aagggcaccc atggctttgg ttgatttatc ttgtgacagc aggagtgcca atagcattaa    1560
ttacttcatt ttgttggcca agaaaagtaa agaaaaaaca taaagataca gagtataaaa    1620
aaaccgacat atgtatacca caaacaaaag gagtactaga gcaagaagaa aaggaagaga    1680
aagcagccct ggaaaaacca atggacctgg aagaggaaaa aaagcaaaat gatggtgaaa    1740
tgcttgaaaa agaagaggaa agtgaacctg aggaaaagag tgaagaagaa attgaaatca    1800
tagaagggca agaagaaagt aatcaatcaa ataagtctgg gtcagaggat gagatgaaag    1860
aagcagatga gagcacagga tctggagatg ggccgataaa gtcagtacgc aaaagaagag    1920
tacgaaagga ctaaactaga ttgaaatatt tttaattccc gagaggatgt ttggcattgt    1980
aaaaatcagc atgccagacc tgaactttaa tcagtctgca catcctgttt ctaatatcta    2040
gcaacattat attctttcag acatttattt tagtccttca tttccgagga aaaagaagca    2100
actttgaagt tacctcatct ttgaatttag aataaaagtg gcacattaca tatcggatct    2160
aagagattaa taccattaga agttacacag ttttagttgt ttggagatag ttttggtttg    2220
tacagaacaa aataatatgt agcagcttca ttgctattgg aaaaatcagt tattggaatt    2280
tccacttaaa tggctataca acaatataac tggtagttct ataataaaaa tgagcatatg    2340
ttctgttgtg aagagctaaa tgcaataaag tttctgtatg gttgtttgat tctatcaaca    2400
attgaaagtg ttgtatatga cccacattta cctagtttgt gtcaaattat agttacagtg    2460
agttgtttgc ttaaattata gattccttta aggacatgcc ttgttcataa aatcactgga    2520
ttatattgca gcatatttta catttgaata caaggataat gggttttatc aaaacaaaat    2580
gatgtacaga ttttttttca agtttttata gttgctttat gccagagtgg tttaccccat    2640
tcacaaaatt tcttatgcat acattgctat tgaaaataaa atttaaatat tttttcatcc    2700
tgaaaaaaaa                                                           2710
```

wx78h04.x1 NCI_CGAP_Ov38 Homo sapiens cDNA clone IMAGE:2549815 3', mRNA sequence.

```
agcaatttga atcatttctt gaaaaacaaa cacagacaaa caccaaacat ggagttggtg   60
cccggcgccg ggcataaggg cagcacccca cgggtggctg tgcgggggggc cgctgggtgt  120
ggccgggccc tgtgtgcctg tgcaggggcc cagctcctcg gggactggcc cacgaccccc  180
cactcagcgg gctgagccaa tgcctggccg agagggggcc gcagccagca ggcttgggtg  240
gctgcccgcg cccgcagggg acatcgggga aatgggggca gagtgcggga cccacacgct  300
gcctgaggag tcttggcagg gtggacaggc ctgggggtct ctaccagcaa tgcaataaat  360
atgcaaatcc aagcacagaa agaccaagcg cagaccccac gggcgcacga ggcccagccc  420
agttcctgcg ggcacgggca ccaccggctc ttcacagacc aggagt                 466
```

Human CD9 antigen mRNA, complete cds.

```
cgcgcccccc agtcccgcac ccgttcggcc caggctaagt tagccctcac catgccggtc      60
aaaggaggca ccaagtgcat caaatacctg ctgttcggat ttaacttcat cttctggctt     120
gccgggattg ctgtccttgc cattggacta tggctccgat tcgactctca gaccaagagc     180
atcttcgagc aagaaactaa taataataat tccagcttct acacaggagt ctatattctg     240
atcggagccg gcgccctcat gatgctggtg ggcttcctgg gctgctgcgg ggctgtgcag     300
gagtcccagt gcatgctggg actgttcttc ggcttcctct tggtgatatt cgccattgaa     360
atagctgcgg ccatctgggg atattcccac aaggatgagg tgattaagga agtccaggag     420
ttttacaagg acacctacaa caagctgaaa accaaggatg agccccagcg ggaaacgctg     480
aaagccatcc actatgcgtt gaactgctgt ggtttggctg ggggcgtgga acagtttatc     540
tcagacatct gccccaagaa ggacgtactc gaaaccttca ccgtgaagtc ctgtcctgat     600
gccatcaaag aggtcttcga caataaattc cacatcatcg gcgcagtggg catcggcatt     660
gccgtggtca tgatatttgg catgatcttc agtatgatct tgtgctgtgc tatccgcagg     720
aaccgcgaga tggtctagag tcagcttaca tccctgagca ggaaagttta cccatgaaga     780
ttggtgggat tttttgtttg tttgttttgt tttgtttgtt gtttgttgtt tgttttttg      840
ccactaattt tagtattcat tctgcattgc tagataaaag ctgaagttac tttatgtttg     900
tcttttaatg cttcattcaa tattgacatt tgtagttgag cgggggttt ggtttgcttg      960
gtttatattt ttcagttgtt tgtttttgct tgttatatta agcagaaatc ctgcaatgaa    1020
aggtactata tttgctagac tctagacaag atattgtaca taaaagaatt tttttgtctt    1080
taaatagata caaatgtcta tcaactttaa tcaagttgta acttatattg aagacaattt    1140
gatacataat aaaaaattat gacaatgaaa aaaaaaaaaa aaaaaaaaaa gg            1192
```

Homo sapiens cDNA clone:HEMBA1001328, 3' end, expressed in whole embryo,

```
gtagccttta tttacttaaa catttatttg cttctaggaa ataagcgctt tcctaatttc    60
aagcaattat aaaagaactg ctgttttctt ccacactcac ttgccagagg gtcgaattgg   120
aagtcacata tatgtctatg aacggaagtt aaaagggaaa ttcaacatga agatgaaatt   180
ctgaactttc ctagataaat taacattgct gggtggaaat attcagatgc tgcttaaata   240
cttcggtaaa cactgggtaa gattcatgga acttagaaaa aagctgtatg aactgcttta   300
ccaaatatca ctactgagga aatgtataaa ataccacata gtataaaatt acatgttaat   360
ccaatgccag attttaaata aaggacctta agttttcctc aaggggaag tttaatgggt   420
cnttcccgnt ntcanagggc caaaaanttc ccaaggaaac caggtagnaa gctcttnaaa   480
ggccgcaaaa t                                                       491
```

Homo sapiens 7-dehydrocholesterol reductase, mRNA (cDNA clone MGC:1760 IMAGE:3507516), complete cds.

```
gtggagcagc gcgcgcaagc gaggccaggg gaaggtgggc gcaggacttt agccggttga    60
gaaggatcaa gcaggcattt ggagcacagg tgtctagaaa cttttaaggg gccggttcaa   120
gaaggaaaag ttcccttctg ctgtgaaact atctggcaag aggctggagg gcccaatggc   180
tgcaaaatcg caacccaaca ttcccaaagc caagagtcta gatggcgtca ccaatgacag   240
aaccgcatct caagggcagt ggggccgtgc ctgggaggtg gactggtttt cactggcgag   300
cgtcatcttc ctactgctgt tcgccccctt catcgtctac tacttcatca tggcttgtga   360
ccagtacagc tgcgccctga ccggccctgt ggtggacatc gtcactggac atgctcggct   420
ctcggacatc tgggccaaga ctccacctat aacgaggaaa gccgcccagc tctatacctt   480
gtgggtcacc ttccaggtgc ttctgtacac gtctctccct gacttctgcc ataagtttct   540
acccggctac gtaggaggca tccaggaggg ggccgtgact cctgcagggg ttgtgaacaa   600
gtatcagatc aacggcctgc aagcctggct cctcacgcac ctgctctggt ttgcaaacgc   660
tcatctcctg tcctggttct cgcccaccat catcttcgac aactggatcc cactgctgtg   720
gtgcgccaac atccttggct atgccgtctc caccttcgcc atggtcaagg gctacttctt   780
ccccaccagc gccagagact gcaaattcac aggcaatttc ttttacaact acatgatggg   840
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ccccgggatc gtcgcctgga ccctcatcaa cctgtccttc gcagcgaagc agcgggagct   960
ccacagccat gtgaccaatg ccatggtcct ggtcaacgtc ctgcaggcca tctacgtgat  1020
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cgggtggtac ctgggctggg gcgactgtgt ctggctgcct tatctttaca cgctgcaggg  1140
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gctgggcctg gtgggctact acatcttccg ggtggccaac caccagaagg acctgttccg  1260
ccgcacggat gggcgctgcc tcatctgggg caggaagccc aaggtcatcg agtgctccta  1320
cacatccgcc gacgggcaga ggcaccacag caagctgctg gtgtcgggct tctggggcgt  1380
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ccgctgcctc cgggacgagc accgctgcgc cagcaagtac ggccgggact gggagcgcta  1560
caccgccgca gtgccttacc gcctgctgcc tggaatcttc taagggcacg ccctagggag  1620
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tccaactcga ggagcctcag tttcctcatc tgtaaactgg agagagccca gcacttggca  1740
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gtattgccag cacagacgga ttttctctaa tcagtgtccc tggggcagga ggatgaccca  1860
gtcaccttta ctagtccttt ggagacaatt tacctgtatt aggagcccag gccacgctac  1920
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tggtagcgtg cacggtgttg aactgggaca ctggggagaa aggggctttc atgtcgtttc  2160
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```
tcttcctcat ccctagggtg ttgtgtagaa ctctttttaa actctatgct ccgagtagag      2520
ttcatcttta tattaaactt cccctgttca aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa      2580
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaa                                  2614
```

Homo sapiens squalene epoxidase (ERG1) mRNA, complete cds.

```
ctggtctgat cggacttctc gtcctgggac acagtttact ggagtctggc cggctctccg        60
tgctcctctt ggtacctcat tttggggaga accttaaacc cactcgagca gataatctcc       120
gccttgaccg gtgccaccaa agaagccttg gaaccatgtg gacttttctg ggcattgcca       180
ctttcaccta tttttataag aagttcgggg acttcatcac tttggccaac agggaggtcc       240
tgttgtgcgt gctggtgttc ctctcgctgg gcctggtgct ctcctaccgc tgtcgccacc       300
gaaacggggg tctcctcggg cgccagcaga gcggctccca gttcgccctc ttctcggata       360
ttctctcagg cctgcctttc attggcttct tctgggccaa atccccccct gaatcagaaa       420
ataaggagca gctcgaggcc aggaggcgca gaaaaggaac caatatttca gaaacaagct       480
taataggaac agctgcctgt acatcaacat cttctcagaa tgacccagaa gttatcatcg       540
tgggagctgg cgtgcttggc tctgctttgg cagctgtgct ttccagagat ggaagaaagg       600
tgacagtcat tgagagagac ttaaaagagc ctgacagaat agttggagaa ttcctgcagc       660
cgggtggtta tcatgttctc aaagaccttg gtcttggaga tacagtggaa ggtcttgatg       720
cccaggttgt aaatggttac atgattcatg atcaggaaag caaatcagag gttcagattc       780
cttaccctct gtcagaaaac aatcaagtgc agagtggaag agctttccat cacggaagat       840
tcatcatgag tctccggaaa gcagctatgg cagagcccaa tgcaaagttt attgaaggtg       900
ttgtgttaca gttattagag gaagatgatg ttgtgatggg agttcagtac aaggataaag       960
agactggaga tatcaaggaa ctccatgctc cactgactgt tgttgcagat gggcttttct      1020
ccaagttcag gaaaagcctg gtctccaata aagtttctgt atcatctcat tttgttggct      1080
ttcttatgaa gaatgcacca cagtttaaag caaatcatgc tgaacttatt ttagctaacc      1140
cgagtccagt tctcatctac cagatttcat ccagtgaaac tcgagtactt gttgacatta      1200
gaggagaaat gccaaggaat ttaagagaat acatggttga aaaaatttac ccacaaatac      1260
ctgatcacct gaaagaacca ttcttagaag ccactgacaa ttctcatctg aggtccatgc      1320
cagcaagctt ccttcctcct tcatcagtga agaaacgagg tgttcttctt ttgggagacg      1380
catataatat gaggcatcca cttactggtg gaggaatgac tgttgctttt aaagatataa      1440
aactatggag aaaactgcta aagggtatcc ctgaccttta tgatgatgca gctattttcg      1500
aggccaaaaa atcatttac tgggcaagaa aaacatctca ttcctttgtc gtgaatatcc      1560
ttgctcaggc tctttatgaa ttattttctg ccacagatga ttccctgcat caactaagaa      1620
aagcctgttt tctttatttc aaacttggtg gcgaatgtgt tgcgggtcct gttgggctgc      1680
tttctgtatt gtctcctaac cctctagttt taattggaca cttctttgct gttgcaatct      1740
atgccgtgta tttttgcttt aagtcagaac cttggattac aaaacctcga gcccttctca      1800
gtagtggtgc tgtattgtac aaagcgtgtt ctgtaatatt tcctctaatt tactcagaaa      1860
tgaagtatat ggttcattaa gcttaaaggg gaaccatttg tgaatgaata tttggaactt      1920
accaagtcct aagagacttt tggaagagga tatatatagc atagtaccat accacttata      1980
aagtggaaac tcttggacca agattaggat taatttgttt ttgaagtttt ttgtatataa      2040
atatgtaaat acatgcttta atttgcaatt taaaatgaag gggttaaata agttagacat      2100
ttaaaagaaa tgattgttac cataaattag tgctaatgct gaggagaact acagtttttc      2160
ttttgaattt agtatttgag atgagttgtt gggacatgc                             2199
```

Homo sapiens keratin 23 (histone deacetylase inducible), transcript variant 1, mRNA (cDNA clone MGC:26158 IMAGE:4838347), complete cds.

```
aggggaaat cctgagcgca ggccagggtt gtttggtttt gaggtgtgct gggatgaaag      60
gcaccctgga agtggaaggt aaatgagcaa tggaaaaact tcacggcaag attagaaaga     120
tacctgagcc caatacccgc ctgatgtcgt gggccacacc tccgggttac caggggaagg     180
gaggaagcaa actgtcatat tgatgtggct ctaaacaaca acagtgtgcg aaggcccagg     240
ggcactttgg gattgaccaa gaggaaacac aagttgcaca atgatacaat cttgttggta     300
caattgtcag agaagggaac tcccacagca aaggccataa aaccatccag ggcagtctgg     360
ggcggctcag ttctgcggtg ccagggagtg gagcagagct cagccccgtc ccaaacacag     420
atgggaccat gaactccgga cacagcttca gccagacccc ctcggcctcc ttccatggcg     480
ccggaggtgg ctggggccgg cccaggagct tccccagggc tcccaccgtc catggcggtg     540
cgggggggagc ccgcatctcc ctgtccttca ccacgcggag ctgcccaccc cctggagggt     600
cttggggttc tggaagaagc agccccctac taggcggaaa tgggaaggcc accatgcaga     660
atctcaacga ccgcctggcc tcctacgtgg agaaggttcg cgccctggag gaggccaaca     720
tgaagctgga aagccgcatc ctgaaatggc accagcagag agatcctggc agtaagaaag     780
attattcaca gtatgaggaa aacatcacac acctgcagga gcagatagtg gatggtaaga     840
tgaccaatgc tcagattatt cttctcattg acaatgccag gatggcagtg gatgacttca     900
acctcaagta tgaaaatgaa cactccttta agaaagactt ggaaattgaa gtcgagggcc     960
tccgaaggac cttagacaac ctgaccattg tcacaacaga cctagaacag gaggtggaag    1020
gaatgaggaa agagctcatt ctcatgaaga agcaccatga gcaggaaatg gagaagcatc    1080
atgtgccaag tgacttcaat gtcaatgtga aggtggatac gggtcccagg gaagatctga    1140
ttaaggtcct ggaggatatg agacaagaat atgagcttat aataaagaag aagcatcgag    1200
acttggacac ttggtataaa gaacagtctg cagccatgtc ccaggaggca gccagtccag    1260
ccactgtgca gagcagacaa ggtgacatcc acgaactgaa gcgcacattc caggccctgg    1320
agattgacct gcagacacag tacagcacga aatctgcttt ggaaaacatg ttatccgaga    1380
cccagtctcg gtactcctgc aagctccagg acatgcaaga gatcatctcc cactatgagg    1440
aggaactgac gcagctacgc catgaactgg agcggcagaa caatgaatac caagtgctgc    1500
tgggcatcaa aacccacctg gagaaggaaa tcaccacgta ccgacggctc ctggagggag    1560
agagtgaagg gacacgggaa gaatcaaagt cgagcatgaa agtgtttgca actccaaaga    1620
tcaaggccat aacccaggag accatcaacg gaagattagt tctttgtcaa gtgaatgaaa    1680
tccaaaagca cgcatgagac caatgaaagt ttccgcctgt tgtaaaatct attttccccc    1740
aaggaaagtc cttgcacaga caccagtgag tgagttctaa aagataccct tggaattatc    1800
agactcagaa acttttattt ttttttttctg taactgtctc accagacttc tcataatgct    1860
cttaatatat tgcacttttc taatcaaagt gcgagtttat gagggtaaag ctctactttc    1920
ctactgcagc cttcagattc tcatcatttt gcatctattt tgtagccaat aaaactccgc    1980
actagcaaaa aaaaaaaaaa aa                                             2002
```

Homo sapiens translocon-associated protein gamma subunit mRNA, complete cds.

```
cctttgcccg cttggcggcc ggctctacgt tccctgttct cgcctgcagc tccgccatgg      60
ctcctaaagg cagctccaaa cagcagtctg aggaggacct gctcctgcag gatttcagcc     120
gcaatctctc ggccaagtcc tccgcgctct tcttcggaaa cgcgttcatc gtgtctgcca     180
tccccatctg gttatactgg cgaatatggc atatggatct tattcagtct gctgttttgt     240
atagtgtgat gaccctagta agcacatatt tggtagcctt tgcatacaag aatgtgaaat     300
ttgttctcaa gcacaaagta gcacagaaga gggaggatgc tgtttccaaa gaagtgactc     360
gaaaactttc tgaagctgat aatagaaaga tgtctcggaa ggagaaagat gaaagaatct     420
tgtggaagaa gaatgaagtt gctgattatg aagctacaac attttccatc ttctataaca     480
acactctgtt cctggtcgtg gtcattgttg cttccttctt catattgaag aacttcaacc     540
ccacagtgaa ctacatattg tccataagtg cttcatcagg actcatcgcc ctcctgtcta     600
ctggctccaa atagaccatg tcagcttcac cccctggctt tgtgtctatg ggtggcctgt     660
ggtatatgga aaagtagcag ggtggtcagg gtgggagaca caagatgttt ttatagtcta     720
gagcctttaa aaaacccagc agaatgtaat tcagtatttg tttattggct gttttttgac     780
agattgttga aattaaatga attgaaaggg aaactcagag tactaggacg tttattaaaa     840
ggaaaaaaat gtcttgcaat gtgctgtaat cacaagagga gaaaataact tgtttccttg     900
atctgtcaga ggtcacagta acctgggccg agctgttatt atttattata taatagtagt     960
aggaagttaa taactggttc tctgtgttcc aagcacaata ttacaacttc ttttgaaccg    1020
taaatatcag aatgaatcct cttcccaggg gattgaacag aagcttaatg tttacaagtg    1080
tttgaatttg tgatctgaaa taacacaaaa ttaaaaacat gatttctcta attttccaac    1140
tagaggagag agacttgtgg aaaagttctt tttttctctt tttttttttct taaagaaggg    1200
cagccaaggt agtaacctaa aaatagtgcc caggcatatg agagttgtcc tacgaggtta    1260
aagaacacac tgttccactg tatggctttg gcctgagtgg ccagggaggt caacttgacc    1320
ctgccatgtt ggtttgactt actaagacac aggaatcatt gttttccttg accagggtct    1380
cacaccctgg aggaatgtta agtaagagaa agaacctctt tcctgaatat tgacatgtaa    1440
aagaccaaag taatttttct gaacttctgc aattctgaga actctccaag gaatttacag    1500
tgattttagt gcttgtcagc atttttccat gaggactttc atacatttga ctctttagtt    1560
cacaggttcc cattgattgt gagcaagata tttatctctt tagcccttgg gatccagctg    1620
agagcaatct cttgcatttt tttacccgtg tatgtacaga tatcatttct tgtgtatgcc    1680
atgacttgaa aaagtttggg aagctcttta gcaatatcag ctaaaaggat atgaaatcac    1740
aggtgatagc agttgtcatt cagtaatttc ctacaagcag caccccaaag gaaatatagt    1800
cctaatcttt actatccact tctaaattta atgtgaattt catacatgtt attagttgtt    1860
ttctttataa ttttataaaa attattcatc gggagtttaa cttccacttc catgctatcg    1920
gatgtgttgg gctccatgca agaacttgga agaaaaacag gcaggaatgc atttgcataa    1980
tgacccagat catcattttc tgcaactgag aattatattt catcattgct tctagaagtc    2040
tgcaattctt tacttttctt tggtgcatta ttatctaggt gccatcactg gataatgtgg    2100
agtgactaga gaagtcatat atcactgtaa ggtacagtta gggtaacact ttagaggttt    2160
attattttta aaaaactttt cttgaactcc tggccaacat ggtgaaaccc cgtctctact    2220
aaaaatacca aaattagcca ggcgtgatgg tgggtgcctg taatctcagc tacttgggag    2280
gctgaagcag gagaactgcc tgaacccagg aggcagaggt tgcagtgagt cgagatcgtg    2340
ctactactgc ctgggtggca agggtgagac tccatctcaa aaaagaaaca aaaaaaccca    2400
aaaagttttc tttactgttg gttaaaaaaa aaagccagac catagtttga ctggtggcat    2460
ggaatttgtg tatcaaataa atgcatttgc ttatttgaca aaccatcagt gtccactatt    2520
tgttaccaga gttgggccac tatcttttaa aattgctggt gaaaacttgc cactagatgg    2580
agtgctgtat agatggggaa aaaattgcca ccattcttgg tataatacag tgtagcttag    2640
atgaggtggt gaaatagggg tatcagccga atattcctaa tatagtttct cttgaattaa    2700
taaactgaag atttgtagga aaatgagtga gcaaaatttg tttactgttg tgaatttttc    2760
ctacagcact gtttttaatc ttggtgtttt ccaactttct gtactaatag atacatttct    2820
gtgcataaga ttataaagca tatactcaca gttcagtagt tttcgttaag gatttactgt    2880
gtgagtactt tactgtgagg aattgcagaa ccttttcccc tctactcttg tctaaaagtt    2940
ctgtgtggca cacagagatg cgacctactc aatctgactt agtaaaacca tgctgtagaa    3000
tttttgtctt aaaaagacca catacccagc acccatgaaa taaaagattc atctgtaaaa    3060
a                                                                    3061
```

Homo sapiens malic enzyme 1, NADP(+)-dependent, cytosolic, mRNA (cDNA clone MGC:39115 IMAGE:4870714), complete cds.

```
gtcaccccag cagcatccgc cgcctgcacc gcgcgtgcgg cccgccccgg cctgaccccg      60
ccgccgaacc cggcgccagc catggagccc gaagcccccc gtcgccgcca cacccatcag     120
cgcggctacc tgctgacacg gaaccctcac ctcaacaagg acttggcctt taccctggaa     180
gagagacagc aattgaacat tcatggattg ttgccacctt ccttcaacag tcaggagatc     240
caggttctta gagtagtaaa aaatttcgag catctgaact ctgactttga caggtatctt     300
ctcttaatgg atctccaaga tagaaatgaa aaactctttt atagagtgct gacatctgac     360
attgagaaat tcatgcctat tgtttatact cccactgtgg gtctggcttg ccaacaatat     420
agtttggtgt ttcggaagcc aagaggtctc tttattacta tccacgatcg agggcatatt     480
gcttcagttc tcaatgcatg gccagaagat gtcatcaagg ccattgtggt gactgatgga     540
gagcgtattc ttggcttggg agaccttggc tgtaatggaa tgggcatccc tgtgggtaaa     600
ttggctctat atacagcttg cggagggatg aatcctcaag aatgtctgcc tgtcattctg     660
gatgtgggaa ccgaaaatga ggagttactt aaagatccac tctacattgg actacggcag     720
agaagagtaa gaggttctga atatgatgat tttttggacg aattcatgga ggcagtttct     780
tccaagtatg gcatgaattg cgttattcag tttgaagatt ttgccaatgt gaatgcattt     840
cgtctcctga acaagtatcg aaaccagtat tgcacattca atgatgatat tcaaggaaca     900
gcatctgttg cagttgcagg tctccttgca gctcttcgaa taaccaagaa caaactgtct     960
gatcaaacaa tactattcca aggagcttgga gaggctgccc tagggattgc acacctgatt    1020
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gttgattcaa aaggattaat agttaaggga cgtgcttcct taacacaaga gaaagagaag    1140
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gaatgttctg cagagcagtg ctacaaaata accaagggac gtgcaatttt tgccagtggc    1380
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aattcctatg tgttccctgg agttgctctt ggtgttgtgg cgtgtggatt gaggcagatc    1500
acagataata ttttcctcac tactgctgag gttatagctc agcaagtgtc agataaacac    1560
ttggaagagg gtcggcttta tcctcctttg aataccatta gagatgtttc tctgaaaatt    1620
gcagaaaaga ttgtgaaaga tgcataccaa gaaaagacag ccacagttta tcctgaaccg    1680
caaaacaaag aagcatttgt ccgctcccag atgtatagta ctgattatga ccagattcta    1740
cctgattgtt attcttggcc tgaagaggtg cagaaaatac agaccaaagt tgaccagtag    1800
gataatagca aacatttcta actctattaa tgaggtcttt aaacctttca taatttttaa    1860
aggttggaat cttttataat gattcataag acacttagat taagatttta ctttaacagt    1920
ctaaaaattg atagaagaat atcgatataa attgggataa acatcacatg agacaaaaaa    1980
aaaaaaaaaa aa                                                        1992
```

Homo sapiens livin inhibitor-of-apotosis (LIVIN) mRNA, complete cds.

```
ccctgggata ctcccctccc agggtgtctg gtggcaggcc tgtgcctatc cctgctgtcc      60
ccagggtggg ccccgggggt caggagctcc agaagggcca gctgggcata ttctgagatt     120
ggccatcagc ccccatttct gctgcaaacc tggtcagagc cagtgttccc tccatgggac     180
ctaaagacag tgccaagtgc ctgcaccgtg gaccacagcc gagccactgg gcagccggtg     240
atggtcccac gcaggagcgc tgtggacccc gctctctggg cagccctgtc ctaggcctgg     300
acacctgcag agcctgggac cacgtggatg ggcagatcct gggccagctg cggcccctga     360
cagaggagga agaggaggag ggcgccgggg ccaccttgtc caggggcct gccttccccg      420
gcatgggctc tgaggagttg cgtctggcct ccttctatga ctggccgctg actgctgagg     480
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ggtgcttctt ctgctatggg ggcctgcaga gctggaagcg cggggacgac ccctggacgg     600
agcatgccaa gtggttcccc agctgtcagt tcctgctccg gtcaaaagga agagactttg     660
tccacagtgt gcaggagact cactcccagc tgctgggctc ctgggacccg tgggaagaac     720
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ccatcgtctt tgtgccgtgc ggccacctgg tctgtgctga gtgtgccccc ggcctgcagc     960
tgtgccccat ctgcagagcc cccgtccgca gccgcgtgcg caccttcctg tcctaggcca    1020
ggtgccatgg ccggccaggt gggctgcaga gtgggctccc tgcccctctc tgcctgttct    1080
ggactgtgtt ctgggcctgc tgaggatggc agagctggtg tccatccagc actgaccagc    1140
cctgattccc cgaccaccgc ccagggtgga gaaggaggcc cttgcttggc gtgggggatg    1200
gcttaactgt acctgtttgg atgcttctga atagaaataa agtgggtttt ccctggaggt    1260
```

Homo sapiens drebrin 1, transcript variant 1, mRNA (cDNA clone MGC:1517 IMAGE:3356428), complete cds.

```
ccgaggcggc ggcggcgact ccctctttcc ctccctcctc ctccgtccgc ccgtccgtcc      60
gcgcgtctgt ccgttcggcc cggtccggcc cgaagcatgg ccggcgtcag cttcagcggc     120
caccgcctgg agctgctggc ggcttacgag gaggtgatcc gagaggagag cgcggccgac     180
tgggctctgt acacatatga agatggctcc gatgacctca agcttgcagc atcaggagaa     240
gggggcttgc aggagctttc gggacacttt gagaaccaga aggtgatgta cggcttctgc     300
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gatgtgcctg atgcccgcaa gtgcgcttgt gccagccacg tggctaaggt ggcagagttc     420
ttccagggtg tcgacgtgat cgtgaacgcc agcagcgtgg aagacataga cgcgggtgcc     480
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cggctgcgag aggatgagaa cgcagagccc gtgggcacca cctaccagaa gacggatgca     600
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aacccaaggg agttcttcaa gcagcaggaa agagtcgcat cggcctctgc gggcagctgt    1020
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ctggagcaag agcaggagcc ggagccccac ctgctaacca atggcgagac cacccagaag    1860
gaggggaccc aggccagtga ggggtacttc agtcaatcac aggaggagga gtttgcccaa    1920
tcggaagagc tctgtgccaa ggctccgcct cctgtgttct acaacaagcc tccagagatc    1980
gacatcacat gctgggatgc agacccagtt ccagaagagg aggagggctt cgagggtggt    2040
gattagcggt ggcgccagcc ctaggctacc cttgccaagg ccgcccacct gcatcagcct    2100
ctggccagac ggcccgccgt gcctgcattc gcagcagctc cgcctggcac ccactccgga    2160
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tttctctttt tttaaaaagt tgataggaga cttgtacagt tgactggctt tcctctcgtt    2280
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agtcctccct gctcagctgg ccgggttgga ggcctcaccc tgcttggggc ctggcgtggg    2400
gggagctctg gtgggaaaat gtcccccacc tcttttccta gttttatgtt tcttgggaaa    2460
atatcacttt gtattctctg tccagggctt cagatatttt gcacgaattt taaaacatgg    2520
caataaatgg ctcgtgggct ctggcaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa    2580
aaaaaaaaaa aaa                                                       2593
```

Homo sapiens MDS019 (MDS019) mRNA, complete cds.

```
ctgccagggg gagggcccca gagaaaacca gaaagagggt gagagactga ggaagataaa      60
gcgtcccagg gcctcctaca ccagcgcctg agcaggaagc gggaggggcc atgactacga     120
ggccctggga ggtcacttta gggagggctg tcctaaaacc agaagcttgg agcagaaagt     180
gaaaccctgg tgctccagac aaagatctta gtcgggacta gccggccaag gatgaagcct     240
cacttcagaa acacagtgga gcgaatgtat cgagacacat tctcctacaa cttttataat     300
agacccatcc tttctcgtcg gaataccgtc tggctgtgct acgaagtgaa aacaaagggt     360
ccctcaaggc ccccttgga cgcaaagatc tttcgaggcc aggtgtattc cgaacttaag     420
taccacccag agatgagatt cttccactgg ttcagcaagt ggaggaagct gcatcgtgac     480
caggagtatg aggtcacctg gtacatatcc tggagccct gcacaaagtg tacaagggat      540
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tactacttct gggacccaga ttaccaggag gcgcttcgca gcctgtgtca gaaaagagac     660
ggtccgcgtg ccaccatgaa gatcatgaat tatgacgaat ttcagcactg ttggagcaag     720
ttcgtgtaca gccaaagaga gctatttgag ccttggaata atctgcctaa atattatata     780
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gtggagcgca tgcacaatga cacctgggtc ctgctgaacc agcgcagggg ctttctatgc     960
aaccaggctc cacataaaca cggtttcctt gaaggccgcc atgcagagct gtgcttcctg    1020
gacgtgattc ccttttggaa gctggacctg gaccaggact acagggttac ctgcttcacc    1080
tcctggagcc cctgcttcag ctgtgcccag gaaatggcta aattcatttc aaaaaacaaa    1140
cacgtgagcc tgtgcatctt cactgcccgc atctatgatg atcaaggaag atgtcaggag    1200
gggctgcgca ccctggccga ggctggggcc aaaatttcaa taatgacata cagtgaattt    1260
aagcactgct gggacacctt tgtggaccac cagggatgtc ccttccagcc ctgggatgga    1320
ctagatgagc acagccaaga cctgagtggg aggctgcggg ccattctcca gaatcaggaa    1380
aactgaagga tgggcctcag tctctaagga aggcagagac ctgggttgag cctcagaata    1440
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acaccagcaa agcaatgcac tcctgaccaa gtagattctt ttaaaaatta gagtgcatta    1560
ctttgaatca aaaatttatt tatatttcaa gaataaagta ctaagattgt gctcaataca    1620
cagaaaagtt tcaaacctac taatccagcg acaatttgaa tcggttttgt aggtagagga    1680
ataaaatgaa atactaaatc tttctgtaaa aaaaaaa                             1717
```

Human carnitine palmitoyltransferase I mRNA, nuclear gene encoding mitochondrial protein, complete cds.

```
ccgcgcaccc atctgccccc gtcctaggtg ccgaccaacc cccaggatgg cggaagctca      60
ccaggccgtg gccttccagt tcacggtgac cccagacggg gtcgacttcc ggctcagtcg     120
ggaggccctg aaacacgtct acctgtctgg gatcaactcc tggaagaaac gcctgatccg     180
catcaagaat ggcatcctca ggggcgtgta ccctggcagc cccaccagct ggctggtcgt     240
catcatggca acagtgggtt cctccttctg caacgtggac atctccttgg ggctggtcag     300
ttgcatccag agatgcctcc ctcaggggtg tggcccctac cagaccccgc agacccgggc     360
acttctcagc atggccatct tctccacggg cgtctgggtg acgggcatct tcttcttccg     420
ccaaaccctg aagctgcttc tctgctacca tgggtggatg tttgagatgc atggcaagac     480
cagcaacttg accaggatct gggctatgtg tatccgcctt ctatccagcc ggcaccctat     540
gctctacagc ttccagacat ctctgcccaa gcttcctgtg cccagggtgt cagccacaat     600
tcagcggtac ctagagtctg tgcgcccctt gttggatgat gaggaatatt accgcatgga     660
gttgctggcc aaagaattcc aggacaagac tgcccccagg ctgcagaaat acctggtgct     720
caagtcatgg tgggcaagta actatgtgag tgactggtgg gaagagtaca tctaccttcg     780
aggcaggagc cctctcatgg tgaacagcaa ctattatgtc atggaccttg tgctcatcaa     840
gaatacagac gtgcaggcag cccgcctggg aaacatcatc cacgccatga tcatgtatcg     900
ccgtaaactg gaccgtgaag aaatcaagcc tgtgatggca ctgggcatag tgcctatgtg     960
ctcctaccag atggagagga tgttcaacac cactcggatc ccgggcaagg acacagatgt    1020
gctacagcac ctctcagaca gccggcacgt ggctgtctac cacaagggac gcttcttcaa    1080
gctgtggctc tatgagggcg cccgtctgct caagcctcag gatctggaga tgcagttcca    1140
gaggatcctg gacgacccct ccccacctca gcctggggag gagaagctgg cagccctcac    1200
tgcaggagga agggtggagt gggcgcaggc acgccaggcc ttctttagct ctggaaagaa    1260
taaggctgcc ttggaggcca tcgagcgtgc cgctttcttc gtggccctgg atgaggaatc    1320
ctactcctat gaccccgaag atgaggccag cctcagcctc tatggcaagg ccctgctaca    1380
tggcaactgc tacaacaggt ggtttgacaa atccttcact ctcatttcct tcaagaatgg    1440
ccagttgggt ctcaatgcag agcatgcgtg ggcagatgct cccatcattg ggcacctctg    1500
ggagtttgtc ctgggcacag acagcttcca cctgggctac acggagaccg ggcactgcct    1560
gggcaaaccg aaccctgcgc tcgcacctcc tacacggctg cagtgggaca ttccaaaaca    1620
gtgccaggcg gtcatcaaga gttcctacca ggtggccaag gcgttggcag acgacgtgga    1680
gttgtactgc ttccagttcc tgccctttgg caaaggcctc atcaagaagt gccggaccag    1740
ccctgatgcc tttgtgcaga tcgcgctgca gctggctcac ttccgggaca ggggtaagtt    1800
ctgcctgacc tatgaggcct caatgaccag aatgttccgg gagggacgga ctgagactgt    1860
gcgttcctgt accagcgagt ccacagcctt tgtgcaggcc atgatggagg ggtcccacac    1920
aaaagcagac ctgcgagatc tcttccagaa ggctgctaag aagcaccaga atatgtaccg    1980
cctggccatg accggggcag ggatcgacag gcacctcttc tgcctttact tggtctccaa    2040
gtacctagga gtcagctctc ctttccttgc tgaggtgctc tcggaaccct ggcgtctctc    2100
caccagccag atcccccaat cccagatccg catgttcgac ccagagcagc accccaatca    2160
cctgggcgct ggaggtggct ttggccctgt agcagatgat ggctatggag tttcctacat    2220
gattgcaggc gagaacacga tcttcttcca catctccagc aagttctcaa gctcagagac    2280
gaacgcccag cgctttggaa accacatccg caaagccctg ctggacattg ctgatctttt    2340
ccaagttccc aaggcctaca gctgaagccc ttaggtacct gtgttttgtt tgggaactcg    2400
gaggccctcc ccctccccca gctcagacca cagaggtggc aagagaaggg ctgaagctgg    2460
aagactgttc atgagggact tgtgtgacct gctttgaaat gtgtgactct gctgagtgac    2520
gtaggctctg agatagctgt ccacgcccac gtgtttgctt ggaataaata cttgcc        2576
```

Homo sapiens prostate differentiation factor mRNA, complete cds.

```
agcgtttaaa cttaagcttg gagttatttc caccatgccc gggcaagaac tcaggacgct      60
gaatggctct cagatgctcc tggtgttgct ggtgctctcg tggctgccgc atgggggcgc     120
cctgtctctg gccgaggcga gccgcgcaag tttcccggga ccctcagagt tgcactccga     180
agactccaga ttccgagagt tgcggaaacg ctacgaggac ctgctaacca ggctgcgggc     240
caaccagagc tgggaagatt cgaacaccga cctcgtcccg gcccctgcag tccggatact     300
cacgccagaa gtgcggctgg gatccggcgg ccacctgcac ctgcgtatct ctcgggccgc     360
ccttcctgag gggctccccg aggcctcccg ccttcaccgg gctctgttcc ggctgtcccc     420
gacggcgtca aggtcgtggg acgtgacacg accgctgcgg cgtcagctca gccttgcaag     480
accccaggcg cccgcgctgc acctgcgact gtcgccgccg ccgtcgcagt cggaccaact     540
gctggcagaa tcttcgtccg cacggcccca gctggagttg cacttgcggc cgcaagccgc     600
caggggcgc cgcagagcgc gtgcgcgcaa cggggaccac tgtccgctcg ggcccgggcg     660
ttgctgccgt ctgcacacgg tccgcgcgtc gctggaagac ctgggctggg ccgattgggt     720
gctgtcgcca cgggaggtgc aagtgaccat gtgcatcggc gcgtgcccga gccagttccg     780
ggcggcaaac atgcacgcgc agatcaagac gagcctgcac cgcctgaagc ccgacacggt     840
gccagcgccc tgctgcgtgc ccgccagcta caatcccatg gtgctcattc aaaagaccga     900
caccggggtg tcgctccaga cctatgatga cttgttagcc aaagactgcc actgcatatg     960
aactagtact aagccgaatt ctgcagatat cc                                  992
```

Homo sapiens amphiphysin II mRNA, complete cds.

```
ccgggcgagg cctgcgccgc gatggcagag atgggcagta aaggggtgac ggcgggaaag      60
atcgccagca acgtgcagaa gaagctcacc cgcgcgcagg agaaggttct ccagaagctg     120
gggaaggcag atgagaccaa ggatgagcag tttgagcagt gcgtccagaa tttcaacaag     180
cagctgacgg agggcacccg gctgcagaag gatctccgga cctacctggc ctccgtcaaa     240
gccatgcacg aggcttccaa gaagctgaat gagtgtctgc aggaggtgta tgagcccgat     300
tggcccggca gggatgaggc aaacaagatc gcagagaaca acgacctgct gtggatggat     360
taccaccaga agctggtgga ccaggcgctg ctgaccatgg acacgtacct gggccagttc     420
cccgacatca agtcacgcat tgccaagcgg gggcgcaagc tggtggacta cgacagtgcc     480
cggcaccact acgagtccct tcaaactgcc aaaaagaagg atgaagccaa aattgccaag     540
cctgtctcgc tgcttgagaa agccgccccc cagtggtgcc aaggcaaact gcaggctcat     600
ctcgtagctc aaactaacct gctccgaaat caggccgagg aggagctcat caaagcccag     660
aaggtgtttg aggagatgaa tgtggatctg caggaggagc tgccgtccct gtggaacagc     720
cgcgtaggtt tctacgtcaa cacgttccag agcatcgcgg gcctggagga aaacttccac     780
aaggagatga gcaagctcaa ccagaacctc aatgatgtgc tggtcggcct ggagaagcaa     840
cacgggagca acaccttcac ggtcaaggcc cagcccagtg acaacgcgcc tgcaaaaggg     900
aacaagagcc cttcgcctcc agatggctcc cctgccgcca cccccgagat cagagtcaac     960
cacgagccag agccggccgg cggggccacg cccggggcca ccctccccaa gtccccatct    1020
cagctccgga aaggcccacc agtccctccg cctcccaaac acaccccgtc caaggaagtc    1080
aagcaggagc agatcctcag cctgtttgag gacacgtttg tccctgagat cagcgtgacc    1140
acccctccc agtttgaggc cccggggcct ttctcggagc aggccagtct gctggacctg    1200
gactttgacc ccctcccgcc cgtgacgagc cctgtgaagg cacccacgcc ctctggtcag    1260
tcaattccat gggacctctg ggagcccaca gagagtccag ccggcagcct gccttccggg    1320
gagcccagcg ctgccgaggg caccttgct gtgtcctggc ccagccagac ggccgagccg    1380
gggcctgccc aaccagcaga ggcctcggag gtggcgggtg ggacccaacc tgcggctgga    1440
ccccaggagc caggggagac ggcggcaagt gaagcagcct ccagctctct tcctgctgtc    1500
gtggtggaga ccttcccagc aactgtgaat ggcaccgtgg agggcggcag tggggccggg    1560
cgcttggacc tgcccccagg tttcatgttc aaggtacagg cccagcacga ctacacggcc    1620
actgacacag acgagctgca gctcaaggct ggtgatgtgg tgctggtgat ccccttccag    1680
aaccctgaag agcaggatga aggctggctc atgggcgtga aggagagcga ctggaaccag    1740
cacaaggagc tggagaagtg ccgtggcgtc ttccccgaga acttcactga gagggtccca    1800
tgacggcggg gcccaggcag cctccgggcg tgtgaagaac acctcctccc gaaaaatgtg    1860
tggttctttt ttttgttttg ttttcgtttt tcatcttttg aagagcaaag ggaaatcaag    1920
aggagacccc caggcagagg ggcgttctcc caaagattag gtcgttttcc aaagagccgc    1980
gtcccggcaa gtccggcg                                                  1998
```

602149641F1 NIH_MGC_81 Homo sapiens cDNA clone IMAGE:4290707 5', mRNA sequence.

```
ggcttctggc aatgtagatt tagttgacgc tccccaaagt gcatgagaca catgctaaaa      60
ttacaaatta aaatttgggt cagacttgcc ataatgatag actcaattta gctctctgaa     120
ctagtggtaa ttttttttt tttaattccc acttgggcgt tggtgtacat tcaaatgaaa     180
tgagaagtgt gtatgctgac caaaccacaa gaaactttct ttaagtggtg ttaaagagga     240
aagacctaga atccaagcgg tgttacattg aaaatggtaa cagagcagcg tgcttccacc     300
tttcagatat agatgtggga accacagcag aagttataga gcgacaactt atatacacac     360
ctagaaggta agttaaacaa aataccggct tccagagacc ccttttctcc agccatatta     420
catcaggcta gaagtaatta aggtggattt atttcatcta caagcagttg gtccctaagt     480
gaaaggctct gttgaaaaac aaaacggacc aaacagtgtg gggaaaaatt tccatgtgct     540
tctgtgaagc ttatgtggta cacgtgggcc atttctaatc ttctctgggg ggagcggcca     600
cagacctgtg ttcgggtgaa cctcttaatt cctgagtctt taccaataca gttcctgggg     660
gcgcggggaa cgccttggat atgccaggtc agaaaggggg ctcgatatgg gttgcccagt     720
tcctggggca ccttgctttg aaacacccct catttttgc                            759
```

Human global transcription activator homologous sequence mRNA, complete cds.

```
caagactgga agcagagaga gagagcaaga gtgagagaga gcgagcgagc gtagtcagga      60
gatggtgttg tattccagga gaaaaacgtt tcttcatttc aactcaaact tgctgctaaa     120
gcgcctaaat ctgaaaagga aatggaccca gaatatgaag agaaaatgaa agccgaccga     180
gcaaagagat ttgaattttt actgaagcag acagaacttt ttgcacattt cattcagcct     240
tcagcacaga aatctccaac atctccactg aacatgaaat tgggacgtcc ccgaataaag     300
aaagatgaaa agcagagctt aatttctgct ggagactacc gccataggcg cacagagcaa     360
gaagaagatg aagagctact gtctgagagt cggaaaacat ctaatgtgtg tattagattt     420
gaggtgtcac cttcatatgt gaaaggggcg ccactgagag attatcagat tcgaggactg     480
aattggttga tctctttata tgaaaatgga gtcaatggca ttttggctga tgaaatgggc     540
cttgggaaaa ctttacaaac aattgctttg cttggttacc tgaaacacta ccgaaatatt     600
cctggacctc acatggtttt agttccaaag tctactttac acaactggat gaatgaattt     660
aaacgatggg tcccatctct ccgtgtcatt tgttttgtcg gagacaagga tgccagagct     720
gcttttattc gtgatgaaat gatgccagga gagtgggatg tttgcgttac ttcttatgag     780
atggtaatta aagaaaaatc tgtattcaaa aagtttcact ggcgatacct ggtcattgat     840
gaagctcaca gaataaagaa tgaaaaatct aagctttcag agattgttcg tgagttcaag     900
tcgactaacc gcttgctcct aactggaaca cctttgcaga ataacctgca tgaactgtgg     960
gccttactca acttttatt gcctgatgtc tttaattctg cagatgactt tgattcttgg    1020
tttgacacta aaaattgtct tggtgatcaa aaactcgtgg aaagacttca tgcagtttta    1080
aaaccatttt tgttacgccg tataaaaact gatgtagaga agagtctgcc acctaaaaag    1140
gaaataaaga tttacttggg gctgagtaag atgcaacgag aatggtatac aaaaatcctg    1200
atgaaagata ttgatgtttt aaactcttct ggcaagatgg acaagatgcg actcttaaac    1260
attctgatgc agcttcgaaa gtgttgtaat catccatatc tgtttgatgg tgctgaacct    1320
ggtccacctt ataccactga tgagcatatt gtcagcaaca gtggtaaaat ggtagttctg    1380
gataaactat tggccaaact caaagaacag ggttcaaggg ttctcatttt cagccagatg    1440
actcgcttgc tggatatttt ggaagattat tgcatgtggc gtggttatga gtattgtcga    1500
ctggatggac aaaccccgca tgaagaaaga gaggataaat tcctagaagt ggaatttctg    1560
ggtcaaaggg aagcaataga ggcttttaat gctcctaata gtagcaaatt catctttatg    1620
ctaagtacca gggctggagg tctcggaatt aacctggcaa gtgctgatgt ggttatacta    1680
tatgattcag actggaaccc acaggttgat ctacaagcta tggatcgagc acatcgtatt    1740
ggtcagaaga aaccagtacg tgtattccgt ctcatcactg acaacactgt tgaagagagg    1800
attgtagaaa gagctgagat aaaactgaga ctcgattcaa ttgttataca acaaggaaga    1860
ctcattgacc aacggtctaa caagctggca aaagaggaaa tgttacaaat gatacggcat    1920
ggagccaccc atgtttttgc ttctaaagag agtgagttga cagatgaaga cattacaact    1980
attctggaaa gaggggaaaa gaagactgca gagatgaatg aacgcctgca aaaaatggga    2040
gagtcttctc taagaaattt tagaatggac attgaacaaa gtttatacaa atttgaggga    2100
```

```
gaagattata gagaaaaaca gaagcttggc atggtggaat ggattgaacc tcctaaacga   2160
gaacgcaaag caaactacgc agtggatgcc tactttagag aggctttgcg tgtcagcgag   2220
ccaaagattc caaaggctcc acggcctcca aaacagccaa atgttcagga ttttcaattt   2280
ttcccaccac gcttatttga gctcctggaa aaggaaattc tttattatcg gaagacaata   2340
ggctataagg ttccaaggaa tcctgatatc ccaaatccag ctctggctca aagagaagag   2400
caaaaaaaga ttgatggagc tgaacctctt acaccagaag agactgaaga aaaggaaaaa   2460
cttctcacac aaggtttcac aaactggact aaacgagatt ttaaccagtt tattaaagct   2520
aatgagaaat atggaagaga tgacattgat aacatagctc gagaggtaga gggcaaatcc   2580
cctgaggagg tcatggagta ttcagctgta ttttgggaac gttgcaatga attacaggac   2640
attgagaaaa ttatggctca aattgaacgt ggagaagcaa gaattcaacg aaggatcagt   2700
atcaagaaag ccctggatgc caaaattgca agatacaagg ctccatttca tcagttgcgc   2760
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tgtatgttac acaaaatggg ctttgataga gaaaatgtat atgaagaatt aagacagtgt   2880
gtacgaaatg ctccccagtt tagatttgac tggtttatca agtctaggac tgccatggaa   2940
ttccagagac gctgtaacac tctgatttca ttgattgaga aagaaaatat ggaaattgag   3000
gaaagagaga gagcagaaaa gaagaaacgg gcaactaaaa ctccaatggt aaaattttca   3060
gcattttcct aacttttaga tttaacattg ttgggccatt taaaatgtgc atattggagc   3120
agaacattaa atctgtttcc attttagtca cagaaaagaa aagcagagtc agctactgag   3180
agctctggaa agaaggatgt caagaaggtg aaatcctaaa gcctagaaat aaagttttaa   3240
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tcatggtact ctaagaaaaa tctctttggt tttgatttct tgcatatttt atatatttta   3360
caatgctttc tacctgaaat gtgtagcttt atattttatg gcattctagt atttttgtgt   3420
actgtatttt gtgcatttca tgtcttcatc aaaatcctct cagtccttgt tcttttgaag   3480
cttgtgctga ggttttagct tttctatgtt ttatatgccg ctgctttgaa agagaaccta   3540
gattctatag ttgtattatt gttgtttcat actttaaatt tatatggctg tggaaaaacg   3600
aattaaaatg ttttgaggag aaagaaaaaa aaaa                               3634
```

tb60a01.x1 NCI_CGAP_Br15 Homo sapiens cDNA clone IMAGE:2058696 3' similar to gb:M84739 CALRETICULIN PRECURSOR (HUMAN);, mRNA sequence.

```
tatacggctg cgagaagacg acagaagggg acagaggcaa gaaaagatgt tgatcaagaa      60
agatgagaac caggggtgag ggctgaagga gaatcaaaga taaaatacca gtttaaaaaa     120
aaaaaaaaaa aaaaaaaagt cgtatcga                                       148
```

tu04d02:x1 NCI_CGAP_Pr28 Homo sapiens cDNA clone IMAGE:2250051 3', mRNA sequence.

```
  tttttacaag ggggaaaatt atgtatttat ttacacaaat atgcacagaa cacttgtatc        60
  tttcaaaagt cacacttaag acatagtaaa agcatgttgt atgaaccatg tattcttaag       120
  gattgagcaa actgcaggct gcttgctgcc ttttaggttt gctagtccct gatctacttg       180
  aaacagatgt tgcttgcccc aacactagtt taattataag ggcagcctgt gagaaagttt       240
  caatagacat ttttctcacc tatattgcac gtttttctga agcccttggg caagtgtgtg       300
  tgccatgtgt agttctattt acatataaac gctactttaa aagtttatca aaatcatgag       360
  tttttacaaa agtttttaat gctcttctgc attatatgta gcattgcaaa tctgcaaagt       420
  agtaaaacta taaagcacct ttaggtttgc accagttatt acagaaatgg ggatttgtga       480
  aaaggatgta atttgatgta gaagggcaaa gtcctttaat gactggcatt caagaggatt       540
  acttaaaaca                                                             550
```

Homo sapiens mRNA for KIAA0895 protein, partial cds.

```
ccagtagcta cgggctggtg gaagcgctgc tcacagtcag tgtcggtacg tcttcgtccg      60
cccttaccct ccttatcctg ctccaggtag cggagagccg cctcccgccg cgcccccgcc     120
accgaggccc gggtcagagg ctagaggccg cccgcccctg cgcggccctt tcccctgagc     180
ccgcggagcc cgccgccccg ggcctcgggg cgacgatgct ggagtccatt cgcgtgacgg     240
aaaagcttca ctggcctgag caagaacttg ctaagaagtc tattctaaat gcagaagatt     300
cattgatcat tgacaacaaa agaagcattt cacatttgtc ctcgggagtg ctaaaagaca     360
ttttcacaac tggaaccagt agttacaatg tcctactaca gagcaaggag aaaaaaaagt     420
atcattcaca aaaacagtct tcctccacct actccaaaag atgtagaaaa cccagcaaat     480
ctcctaacac ttctcgtagc aaagatcctc gcaggatgaa agccctggtg cctgtgacaa     540
gcagtggtac ttggtactgc ctggagaggc ggcctgctgt ttttgtcact agttcagtgt     600
caagtcctgt aaagtttaca catgatatct ctgttacagg gaatggcata gtactgccac     660
ctaaacccaa aagcaaggtc aagtggtgcc atttctccac tcttccaaag ccaaagcctc     720
agctgtctag aagctttgaa aagggagatg acttttctgg gaagaaattt tgtatattga     780
ctgctataaa acccaccaac ttagagaaag aaaaactgag attcttcaaa tctgactata     840
cctacaatcc tcagtttgag tatgccaatc ctgctctgcc aagcgtatta gctaagcata     900
gccacgcatc tgaccgattt cttaagcaga ttgtagttca tctcactgag gacctgcttt     960
cccgagcgtc aatgacagta gtaaatggat gtccgactct gactatcaat gtgtccactg    1020
cacgtgagca ttggctggag ggaatgctga ggcatgaaat aggtacacat tattttcgag    1080
gtattaacaa cctccagcag ccatggaaca gttggactgg acgtaaaaaa catgagctaa    1140
agccaaataa tcccacagag gaaggactag caagcattca cagtgttctg tttagaaaag    1200
acccttttt atggagggct gccctcctct actacactgt ttatcaagcc agccaaatgt    1260
ctttttgtga actctttaaa gatattggca ggtttgtcaa ggaccccaat acaagatggg    1320
attattgtgt acgggccaag aggggatgga ctgatacttc ccaaccaggg tgttttagta    1380
aagaccaggt atacttggat ggaattcttc aaatcctccg atacagagat accatagact    1440
tccatctgct gactgctctc gggaaggttt cttatgaaga tgtggatcgc ttaaaaggat    1500
tggcagttac cgaaaacatg agggtccctc atttcctgca ggaccatggc cgatatatgg    1560
aacacttaga gaagatcatg gaagtgaatg aactgactga cagggaactg aaagatctta    1620
tatagtaatt agcgttctgg caaacatagc taagctatgc ctccatgtat attaccagtt    1680
aggtgcagtt agcaccagaa gatttataaa agaagaaaga ctacttgtgt tttctgaaga    1740
agggtcttca gtattcagcg gaatttttag gttaagtaca gatcttaaac tatttcccta    1800
aaatgtttct ataggctgca gggggaagtt attcctattt tctgaatctc gacagagtca    1860
gatgaaaata ctactgctga gcatttttga agactcttgg tcaaattgca tgataaattt    1920
ctgcctgagc agtaagcact ggcctagtgc ttctgcctaa atatggaggt cagctccaac    1980
tggagactgg ctgaattcca ttgctgttca gactccaaag ttatatttta tttgataaat    2040
aatggtaatt attctccttt gaaaaattag ttttgtgttg ctccaaaaag ctagctatat    2100
atctcagctt tcttatttct tttatatgtt gagggatttt aaagggagag gaaaagcaat    2160
ttgaaaattt ttcattaagt gttttatttt aacattattg tttcacctta tcagcttata    2220
ggaactaaat tagagaatca cctctttttg tccggttatc tcttaactat gttttcattt    2280
gctgaaacat attgtaccct tttaaatttt ttacagagtt ttaacgtctt ttccactgca    2340
tcctttataa aaataagtac aaattccaga gaggttttcc tacacaaata caaaataatt    2400
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atcttttata ggagaggtta catgattttt ctctttcaca tatctagaag gacttgcctc    3000
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gcccctgctc cccaactacg tgccatgctg ggtagtgtgt atcctgtaca tctgtgtgcc    3180
aggctggggc agactgtgcc aatgctcacc aaacactaga atctgctctt acacctctag    3240
```

```
catgtatctc gttgtagcag agttgtgcac tttctcagca ttgtgtagtg ttttctaatt      3300
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tggcaatatt tatgtcctgt gattcaagcc caaaggttat aaattcaact ttcacaggga      3420
atagcactgc taatcttact ttatgattta aatataaagg aaaatcacag cagccttaat      3480
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gtttgcaaac ataaatccat agtcttcatt tctttatatt gtcacctttg taaaagtgtt      4080
taaaatttgt attgtttgtt ttgtatatct ttgggcatct tgtgtctagc tataataaaa      4140
agaaacggtg ccaag                                                      4155
```

Homo sapiens NUCB2 protein (NUCB2) mRNA, complete cds.

caggtttgtg cgctggacgc aagcaccagg cgcagcctcg ctcgccgaga cccggccaga 60
acgtgttacg agtcagtttt tagtgaaaaa acattgagct aggagccaag acccatctct 120
tcactatttt ggtattgtgc aagtcatctt acctctctgg atctcagttg tctcatctgt 180
aaaaaggaga taaaaattat ttacctgcct gaacatgagg tggaggacca tcctgctaca 240
gtattgcttt ctcttgatta catgtttact tactgctctt gaagctgtgc ctattgacat 300
agacaagaca aaagtacaaa atattcaccc tgtggaaagt gcgaagatag aaccaccaga 360
tactggactt tattatgatg aatatctcaa gcaagtgatt gatgtgctgg aaacagataa 420
acacttcaga gaaaagctcc agaaagcaga catagaggaa ataaagagtg ggaggctaag 480
caaagaactg gatttagtaa gtcaccatgt gaggacaaaa cttgatgaac tgaaaaggca 540
agaagtagga aggttaagaa tgttaattaa agctaagttg gattcccttc aagatatagg 600
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gtttgaatcc acagatttag atatgctaat caaagcggca acaagtgatc tggaacacta 720
tgacaagact cgtcatgaag aatttaaaaa atatgaaatg atgaaggaac atgaaaggag 780
agaatattta aaaacattga atgaagaaaa gagaaaagaa gaagagtcta aatttgaaga 840
aatgaagaaa aagcatgaaa atcaccctaa agttaatcac ccaggaagca aagatcaact 900
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atttactaaa gagttggaga aagtatatga ccctaaaaat gaagaggatg atatggtaga 1080
aatggaagaa gaaaggctta gaatgaggga acatgtaatg aatgaggttg atactaacaa 1140
agacagattg gtgactctgg aggagttttt gaaagccaca gaaaaaaaag aattcttgga 1200
gccagatagc tgggagacat tagatcagca acagttcttc acagaggaag aactaaaaga 1260
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gaaacaaaaa gaagagctac aacgtcagca tgatcaactg gaggctcaga agctggaata 1380
tcatcaggtc atacagcaga tggaacaaaa aaaattacaa ggaattcctc catcagggcc 1440
agctggagaa ttgaagtttg agccacacat ttaaagtctg aagtccacca gaacttggaa 1500
gaaa

Homo sapiens glucose-6-phosphate dehydrogenase, mRNA (cDNA clone MGC:8534 IMAGE:2822640), complete cds.

```
cacttcgggg ctgcgagcgc ggagggcgac gacgacgaag cgcagacagc gtcatggcag      60
agcaggtggc cctgagccgg acccaggtgt gcgggatcct gcgggaagag cttttccagg     120
gcgatgcctt ccatcagtcg gatacacaca tattcatcat catgggtgca tcgggtgacc     180
tggccaagaa gaagatctac cccaccatct ggtggctgtt ccgggatggc cttctgcccg     240
aaaacacctt catcgtgggc tatgcccgtt cccgcctcac agtggctgac atccgcaaac     300
agagtgagcc cttcttcaag gccaccccag aggagaagct caagctggag gacttctttg     360
cccgcaactc ctatgtggct ggccagtacg atgatgcagc ctcctaccag cgcctcaaca     420
gccacatgaa tgccctccac ctggggtcac aggccaaccg cctcttctac ctggccttgc     480
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gctggaaccg catcatcgtg gagaagccct tcgggaggga cctgcagagc tctgaccggc     600
tgtccaacca catctcctcc ctgttccgtg aggaccagat ctaccgcatc gaccactacc     660
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ccatctggaa ccgggacaac atcgcctgcg ttatcctcac cttcaaggag ccctttggca     780
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acctactgca gatgctgtgt ctggtggcca tggagaagcc cgcctccacc aactcagatg     900
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tggacgaccc cacggtgccc cgcgggtcca ccaccgccac ttttgcagcc gtcgtcctct    1080
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acgagcgcaa ggccgaggtg aggctgcagt tccatgatgt ggccggcgac atcttccacc    1200
agcagtgcaa gcgcaacgag ctggtgatcc gcgtgcagcc caacgaggcc gtgtacacca    1260
agatgatgac caagaagccg ggcatgttct tcaaccccga ggagtcggag ctggacctga    1320
cctacggcaa cagatacaag aacgtgaagc tccctgacgc ctatgagcgc ctcatcctgg    1380
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ccattgacct cagctgcaca ttcctggccc cgggctctgg ccaccctggc ccgccctcg     1740
ctgctgctac tacccgagcc cagctacatt cctcagctgc caagcactcg agaccatcct    1800
ggcccctcca gaccctgcct gagcccagga gctgagtcac ctcctccact cactccagcc    1860
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atggccaccc cgtgccaccc gtaggcagcc tctctgctat aagaaaagca gacgcagcag    2160
ctgggacccc tcccaacctc aatgccctgc cattaaatcc gcaaacagcc aaaaaaaaaa    2220
aaaaaaaaaa                                                          2230
```

Homo sapiens zinc finger protein 165 (Zpf165) mRNA, complete cds.

ggtcccggat ccgcgcgggt ttggggatcc anatgtccag ccccgtgtcc ccctccaaac 60
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ctcagaggaa tcccgganaa aggtanaacc agcttcgcgt tgggaacgca ggcgcgctta 180
cgcatttagt gagggtttgg cggtctccat anttaccgcc gccgcgcgtg acntcatant 240
ggagcgctga gggcttggtg gcgtggggtg ggggctgtcc tactgatcct gaatttgggt 300
cactggtaan angagttgcc cattccancc aggtggaacg gggaggggta gccacatgtc 360
tcagatctgc cattgtctgc gaaaagaaac tgctgcgagg accatcccca atcccctgct 420
tcccttggga agagtaaccg ccgttttgta ggacacttgg ggacaacccc gcttgtcctg 480
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tatgaatgta atgaatgtgg gaaaagcttt gcagagagct cagatcttac tagacatcgg 1740
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aactcacatc ttatcaggca tcagagaatt cacaccagag agaaacccta cgagtgtagt 1860
gaatgtggga aaaccttccg agtgagctca catcttattc gacactttag aattcacact 1920
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agtcaacacc agagaattca catgagggaa aacctattaa tgtaaggaac ttaaatttgt 2040
aagtaaatgc tgaggaaatg gcacaatatg aaaaatatta aataaaaaat aaatattggg 2100
caagtggaag actgaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 2150

602326096F1 NIH_MGC_90 Homo sapiens cDNA clone IMAGE:4414319 5', Mrna

```
tatctgttca atgaaaataa ggtatgaccc aagtttttac ctagtctgac tagaagtatt      60
ccacttcaag gtctgaagta ggacttttac cttaaaaaac aacaacaaac aaaactatca     120
cacaggatag ataagaagat tggttaaaca gttttgtgta gatctttttg gtgctgaact     180
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aataccttg aaataaagtt ttagagaaat gtttcagaaa aaaaaatata atacatgtag      720
atacgagaca aaaaaaaaaa aaaatgaaaa aaaataaaaa aaaaagagag ggggacagat     780
atatattcag gggagagaaa aaagacagat tatagaaagg cccaaaataa aaaaagaaga     840
aggggtataa atcggaaaaa tgtgtgtaag acaactgtgg agaaaac                   887
```

Human prostaglandin endoperoxide synthase mRNA, complete cds.

```
gcgccatgag ccggagtctc ttgctccggt tcttgctgtt cctgctcctg ctcccgccgc      60
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gctccaacct tatccccagt ccccccacct acaactcagc acatgactac atcagctggg     420
agtctttctc caacgtgagc tattacactc gtattctgcc ctctgtgcct aaagattgcc     480
ccacacccat gggaaccaaa gggaagaagc agttgccaga tgcccagctc ctggcccgcc     540
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gtcagtatca actgcggctc tttaaggatg ggaaactcaa gtaccaggtg ctggatggag     780
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tcttccagaa tgctgaactc cttgttagcc cttcagattg ttaggagtgg ttctcatttg    2040
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tcttcttggg acccccacta agaccctggt ctgaggatgt agagagaaca ggtgggctgt    2460
attcacgcca ttggttggaa gctaccagag ctctatcccc atccaggtct tgactcatgg    2520
cagctgtttc tcatgaagct aataaaattc gccc                                2554
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Human mRNA for tyrosine hydroxylase type 3

```
tccacactga gccatgccca cccccgacgc caccacgcca caggccaagg gcttccgcag        60
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cctcacaggc tctccgtggc ctggaactgc agccccagct gcatcctaca cccccacccc       180
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gggtcctggg ggctgctgca ctgccctccg cccttccctg acactgtctg ctgccccaat      1860
caccgtcaca ataaaagaaa ctgtggtctc t                                     1891
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Homo sapiens mRNA; cDNA DKFZp566A093 (from clone DKFZp566A093); complete

```
agtctgggtt ggactggcgg ccgtggagtt tgtgacatac gaggtgacac ccctcgagtc        60
acttcccttc aactccagct ggagcgcctg cttggctttg ggttcgttct gcagccttcg       120
ccccgctcct agcctcaggg ccggactccg gcgcagagcc cagcccagcg cagcctgcca       180
gcagccaccc agccgcccag ccgcccagcc ccgcacgaaa cccggccaga gcttcctagc       240
agccccgagcc atgaacaccg aatgtatcag acccccatgg aggtggcggt ctaccagctg      300
cacaatttct ccatctcctt cttctcttct ctgcttggag gggatgtggt ttccgttaag       360
ctggacaaca gtgcctccgg agccagcgtg gtggccatag acaacaagat cgaacaggcc       420
atggatctgg tgaagaatca tctgatgtat gctgtgagag aggaggtgga gatcctgaag       480
gagcagatcc gagagctggt ggagaagaac tcccagctag agcgtgagaa caccctgttg       540
aagaccctgg caagcccaga gcagctggag aagttccagt cctgtctgag ccctgaagag       600
ccagctcccg aatccccaca agtgcccgag gcccctggtg gttctgcggt gtaagtggct       660
ctgtcctcag ggtgggcaga gccactaaac ttgttttacc tagttctttc cagtttgttt       720
ttggctcccc aagcatcatc tcacgaggag aactttacac ctagcacagc tggtgccaag       780
agatgtccta aggacatggc acctgggtcc actccagcga cagacccctg acaagagcag       840
gtctctggag gctgagttgc atggggccta gtaacaccaa gccagtgagc ctctaatgct       900
actgcgccct gggggctccc agggcctggg caacttagct gcaactggca aaggagaagg       960
gtagtttgag gtgtgacacc agtttgctcc agaaagttta aggggtctgt ttctcatctc      1020
catggacatc ttcaacagct tcacctgaca acgactgttc ctatgaagaa gccacttgtg      1080
```

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cacagcccag tgtgggatta cagctttggg atgaccgctt acaaagttct gtttggttag      1260
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gtccactgaa acgtgaagtc ctgttttgaa tgccaaaccc accattcact ggtgctgact      1620
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cagaaagctt gtctgtagcg ggttttgtga gagtgaacac tttccacttt ttgacacctt      1860
atcctgatgt atggttccag gatttggatt ttgattttcc aaatgtagct tgaaatttca      1920
ataaactttg ctctgttttt ctaaaaataa aaaaaaaaaa aaaaaaaa                  1968
```

Homo sapiens mRNA for Id-1H, complete cds.

```
ttcagccagt cgccaagaat catgaaagtc gccagtggca gcaccgccac cgccgccgcg      60
ggccccacgt gcgcgctgaa ggccggcaag acagcgagcg gtgcgggcga ggtggtgcgc     120
tgtctgtctg agcagagcgt ggccatctcg cgctgccggg gcgccggggc gcgcctgcct     180
gccctgctgg acgagcagca ggtaaacgtg ctgctctacg acatgaacgg ctgttactca     240
cgcctcaagg agctggtgcc caccctgccc cagaaccgca aggtgagcaa ggtggagatt     300
ctccagcacg tcatcgacta catcagggac cttcagttgg agctgaactc ggaatccgaa     360
gttggaaccc ccgggggccg agggctgccg gtccgggctc cgctcagcac cctcaacggc     420
gagatcagcg ccctgacggc cgaggcggca tgcgtccctg cggacgatcg catcttgtgt     480
cgctgaaggc cttccccagg gaccggcgg                                       509
```

Homo sapiens mRNA for KIAA1254 protein, partial cds.

```
cattggcgcc cgagctgtga ccgccgccac tggggcagcc agcacaatcg ggcggaggtg      60
gcgctgcccc ttcagacctg aaagatgtct gaaaattcca gtgacagtga ttcatcttgt     120
ggttggactg tcatcagtca tgaggggtca gatatagaaa tgttgaattc tgtgaccccc     180
actgacagct gtgagcccgc cccagaatgt tcatctttag agcaagagga gcttcaagca     240
ttgcagatag agcaaggaga aagcagccaa aatggcacag tgcttatgga agaaactgct     300
tatccagctt tggaggaaac cagctcaaca attgaggcag aggaacaaaa gatacccgaa     360
gacagtatct atattggaac tgccagtgat gattctgata ttgttaccct tgagccacct     420
aagttagaag aaattggaaa tcaagaagtt gtcattgttg aagaagcaca gagttcagaa     480
gactttaaca tgggctcttc ctctagcagc cagtatactt tctgtcagcc agaaactgta     540
ttttcatctc agcctagtga tgatgaatca agtagtgatg aaaccagtaa tcagcccagt     600
cctgccttta gacgacgccg tgctaggaag aagaccgttt ctgcttcaga atctgaagac     660
cggctagttg gtgaacaaga aactgaacct tctaaggagt tgagtaaacg tcagttcagt     720
agtggtctca ataagtgtgt tatacttgct ttggtgattg caatcagcat gggatttggc     780
catttctatg gcacaattca gattcagaag cgtcaacagt tagtcagaaa gatacatgaa     840
gatgaattga atgatatgaa ggattatctt tcccagtgtc aacaggaaca agaatctttt     900
atagattata agtcattgaa agaaaatctt gcaaggtgtt ggacacttac tgaagcagag     960
aagatgtcct ttgaaactca gaaaacgaac cttgctacag aaaatcagta tttaagagta    1020
tccctggaga aggaagaaaa agccttatcc tcattacagg aagagttaaa caaactaaga    1080
gaacagatta gaatattgga agattaaagg acaagtactg aattagttaa agaaaatcag    1140
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gagctggaac ggaagctaac cttcgaacag cagcgttctg atttgtggga aagattgtat    1440
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cagtataagg cacctacaga aaaccatcat aatagaggcc ctactatgca aaatgatgga    1860
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agtcctgggc atgattgtag agaaaattct cattctttca gaaaggcttg ttctggtgta    1980
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ttctttggtc acacttttc ccctccatat ggacccaggt cggtttacat aaaaccgtgt     2340
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tcttacactc acttcttgtc tttttgtggg ttcaagagcc ctctgacttg tgaagaattt  6120
gctgccctct taagagcttg ctgacttgtt ttcttgtgaa atttttgca catctgaata  6180
tcgtggaaga aacaataaaa ctacaccatg agg                              6213
```

Homo sapiens cDNA clone:HEMBA1001328, 3' end, expressed in whole embryo, ainly head.

gtagccttta tttacttaaa catttatttg cttctaggaa ataagcgctt tcctaatttc 60
aagcaattat aaaagaactg ctgttttctt ccacactcac ttgccagagg gtcgaattgg 120
aagtcacata tatgtctatg aacggaagtt aaaagggaaa ttcaacatga agatgaaatt 180
ctgaactttc ctagataaat taacattgct gggtggaaat attcagatgc tgcttaaata 240
cttcggtaaa cactgggtaa gattcatgga acttagaaaa aagctgtatg aactgcttta 300
ccaaatatca ctactgagga aatgtataaa ataccacata gtataaaatt acatgttaat 360
ccaatgccag attttaaata aaggacctta agttttcctc aaggggggaag tttaatgggt 420
cnttcccgnt ntcanagggc caaaaanttc ccaaggaaac caggtagnaa gctcttnaaa 480
ggccgcaaaa t 491

Homo sapiens mRNA; cDNA DKFZp564F1862 (from clone DKFZp564F1862); complete cds

gaggcttctg aggtggtggc gccagcggct acctcctgcc tgtgaggagc tggctgagag 60
gggactgggc gccggcgggg aaggaggagc gctaggtcgg tgtacgaccg agattagggt 120
gcgtgccagc tccgggaggc cgcggtgagg ggccgggccc aagctgccga cccgagccga 180
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gatttaaatt gtgtgaacct aatgattttt gcagtgaaac ctttactaat tcaaagttgc 1320
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gcacttttcc acattatact ccatatgagt attaatccta tggatacata ttaaaacaag 1920
tgtctcatac aacattgtat gtgagagaaa tataaatatt tacaacctaa aaaaaaaaaa 1980
aaaaaaa

Homo sapiens annexin A1, mRNA (cDNA clone MGC:5095 IMAGE:3459615), complete cds.

```
atttctcttt agttctttgc aagaaggtag agataaagac acttttttcaa aaatggcaat      60
ggtatcagaa ttcctcaagc aggcctggtt tattgaaaat gaagagcagg aatatgttca      120
aactgtgaag tcatccaaag gtggtcccgg atcagcggtg agcccctatc ctaccttcaa      180
tccatcctcg gatgtcgctg ccttgcataa ggccataatg gttaaaggtg tggatgaagc      240
aaccatcatt gacattctaa ctaagcgaaa caatgcacag cgtcaacaga tcaaagcagc      300
atatctccag gaaacaggaa agcccctgga tgaaacactg aagaaagccc ttacaggtca      360
ccttgaggag gttgttttag ctctgctaaa aactccagcg caatttgatg ctgatgaact      420
tcgtgctgcc atgaagggcc ttggaactga tgaagatact ctaattgaga ttttggcatc      480
aagaactaac aaagaaatca gagacattaa cagggtctac agagaggaac tgaagagaga      540
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catccttacc accagaagct atccacaact tcgcagagtg tttcagaaat acaccaagta      780
cagtaagcat gacatgaaca aagttctgga cctggagttg aaaggtgaca ttgagaaatg      840
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gtaacaatac atgagaaaga tgtctatgta gctgaaaata aaatgacgtc acaagacaaa     1380
aaaaaaaaaa aaaaaaaaaa aaaaaaaa                                        1408
```

Homo sapiens peroxisomal D3,D2-enoyl-CoA isomerase, mRNA (cDNA clone MGC:3558 IMAGE:3608151), complete cds.

```
gagccgccca agggatggcg atggcgtact tggcttggag actggcgcgg cgttcgtgtc      60
cgagttctct gcaggtcact agtttcccgg tagttcagct gcacatgaat agaacagcaa     120
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tattcgatgc cgtgtatgca tctgacaggg caacatttca tacaccattt agtcacctag     840
gccaaagtcc ggaaggatgc tcctcttaca cttttccgaa gataatgagc ctagccaagg     900
caacagagat gcttattttt ggaaagaagt taacagcggg agaggcatgt gctcaaggac     960
ttgttactga agttttccct gatagcactt ttcagaaaga agtctggacc aggctgaagg    1020
tcatttgcaaa gcttccccca aatgccttga gaatttcaaa agaggtaatc aggaaaagag    1080
agagagaaaa actacacgct gttaatgctg aagaatgcaa tgtccttcag ggaagatggc    1140
tatcagatga atgcacaaat gctgtggtga acttcttatc cagaaaatca aaactgtgat    1200
gaccactaca gcagagtaaa gcatgtccaa ggaaggatgt gctgttacct ctgatttcca    1260
gtactggaac taaataagct tcattgtgcc ttttgtagtg ctagaatatc aattacaatg    1320
atgatatttc actacagctc tgatgaataa aaagttttgt aaaacaaaaa aaaaaaaaaa    1380
aaa                                                                 1383
```

Homo sapiens kallikrein 8 (neuropsin/ovasin), transcript variant 1, mRNA (cDNA clone MGC:50513 IMAGE:5742016), complete cds.

```
cgcccctcgt gatgtcaggg gcgcagtagc tccgcccacg tggagctcgg gcggtgtaga      60
gctcagcccc ttgtggcccc gtcctgggcg tgtgctgggt ttgaatcctg gcggagacct     120
gggggaaat tgagggaggg tctggatacc tttagagcca atgcaacgga tgatttttca     180
gtaaacgcgg gaaacctcac cttctttctg cctgagctgt gagatgagtg gagagcaaac     240
gggtgggcgg tgaagggcag atgagggaac cggtaccgcc ttgcaactcc cccttaaacc     300
cctatgttcc agttcccaga agctccccag gctctagtgc aggaggagaa ggaggaggag     360
caggaggtgg agattcccag ttaaaaggct ccagaatcgt gtaccaggca gagaactgaa     420
gtactggggc ctcctccact gggtccgaat cagtaggtga ccccgcccct ggattctgga     480
agacctcacc atgggacgcc cccgacctcg tgcggccaag acgtggatgt tcctgctctt     540
gctgggggga gcctgggcag gacactccag ggcacaggag gacaaggtgc tgggggtca      600
tgagtgccaa ccccattcgc agccttggca ggcggccttg ttccagggcc agcaactact     660
ctgtggcggt gtccttgtag gtggcaactg ggtccttaca gctgcccact gtaaaaaacc     720
gaaatacaca gtacgcctgg gagaccacag cctacagaat aaagatggcc cagagcaaga     780
aatacctgtg gttcagtcca tcccacaccc ctgctacaac agcagcgatg tggaggacca     840
caaccatgat ctgatgcttc ttcaactgcg tgaccaggca tccctggggt ccaaagtgaa     900
gcccatcagc ctggcagatc attgcaccca gcctggccag aagtgcaccg tctcaggctg     960
gggcactgtc accagtcccc gagagaattt tcctgacact ctcaactgtg cagaagtaaa    1020
aatctttccc cagaagaagt gtgaggatgc ttaccgggg cagatcacag atgtcatggt     1080
ctgtgcaggc agcagcaaag gggctgacac gtgccagggc gattctggag gccccctggt    1140
gtgtgatggt gcactccagg gcatcacatc ctggggctca gacccctgtg ggaggtccga    1200
caaacctggc gtctatacca acatctgccg ctacctggac tggatcaaga agatcatagg    1260
cagcaagggc tgattctagg ataagcacta gatctccctt aataaactca caactctcaa    1320
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaa       1377
```

Homo sapiens RTN2-A (RTN2) mRNA, complete cds.

```
cccgggagga ggaggcggcg agaatggcag cggcgtcgtg ggcgcggcgg agatgagcgc      60
ccgcgacccc gggcccaggg cggcacagcc ggagtgggcg ggggtcccga tgcaggcccg     120
agggggggca tggggcaggt cctgccggtc ttcgcccact gcaaagaagc tccgtctaca     180
gcctcctcaa ctcctgattc cacagaagga gggaacgacg actctgattt tcgagagctg     240
cacacagccc gggaattctc agaggaggac gaggaggaga ccacgtcgca ggactggggc     300
acccccccgg agctgacctt ctcctacatc gcctttgatg gtgtagtggg ctccgggggc     360
cgcagggatt caactgcccg ccgcccccgc ccccagggcc gctcagtctc ggaaccacga     420
gaccagcacc ctcagcccag cctgggcgac agcttggaga gcatccccag cctgagccaa     480
tccccggagc ctggacgacg gggtgatcct gacaccgcgc ctccatccga gcgccctctg     540
gaagacctga ggcttcggtt ggaccatctg ggctgggtgg cccggggaac gggatccggg     600
gaggactctt ccaccagcag ctccaccccg ctggaagacg aagaacccca agaacccaac     660
agattggaga caggagaagc tggggaagaa ctggacctac gactccgact tgctcagccc     720
tcatcgcccg aggtcttgac tccccagctc agtccgggct ctgggacacc ccaggccggt     780
actccgtccc catcccgatc gcgagattcg aactctgggc ccgaagagcc attgctggaa     840
gaggaagaaa agcagtgggg gccactggag cgagagccag taaggggaca gtgcctcgat     900
agcacggacc aattagaatt cacggtggag ccacgccttc taggaacagc tatggaatgg     960
ttaaagacat cattgctttt ggctgtttac aagacggttc caattttgga attgtcccca    1020
cctctgtgga cagccattgg ctgggtccaa aggggcccca ccccccctac tcctgtcctc    1080
cgggttctac tgaagtgggc aaaatccccg agaagcagcg gtgtccccag cctctcactc    1140
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tccctcaagc tggccctcct cttctacatc ttgaccttcg tgggtgccat cttcaatggt    1560
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gctaagatcc gagctaaaat cccagggacc ggagccctgg cctctgcagc agccgcagtc    1740
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cagcccccgc agccctctgg ccccctccat ctcttgtccg ttcccaccca ccccctcct     1860
cggcccgagc cttttcccgg tgggtgtcag gatcactccc actagggact ctgcgctaat    1920
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gaggcacctt ggccgcgggg cctgctggga cttgtagttg cctagacagg gcaccaccct    2040
gcacttccgg acccgccgct ggaggcgccg tgaggcgttg gtgtctcctg gatgctacta    2100
gccccaacgc cggggctttg catggggccc aggggaggcc tgagcttgga tttacactgt    2160
aataaagact cctgtggaaa aaaaaaaaaa                                     2190
```

Human mRNA for KIAA0188 gene, partial cds.

```
ccacgcgcgg cgccgctcgg tgcagaccat gaattacgtg gggcagttag ccggccaggt      60
gtttgtcacc gtgaaggagc tctacaaggg gctgaatccc gccacactct cagggtgcat     120
tgacatcatt gtcatccgcc agcccaatgg aaacctccaa tgctccccct tccacgtccg     180
ctttgggaag atgggggtcc tgcgctcccg agagaaagtg gttgacatag aaatcaatgg     240
ggaatctgtg gatttgcata tgaaattggg agataatgga gaagcatttt ttgttcaaga     300
aacagataat gatcaggaag ttatccctat gcacctggcc acctccccca tcctgtcaga     360
aggagcttcg agaatggaat gccagctgaa aaggggctct gtggacagga tgagaggcct     420
ggaccccagc acgccagccc aagtgatcgc tcccagcgag acgccgtcaa gcagctctgt     480
agtaaagaag agaagaaaaa ggaggagaaa gtcacagctg gacagcctga agagagatga     540
caacatgaac acatctgagg atgaggacat gttccccatc gagatgagct cggatgaggc     600
catggagctg ctggagagca gcagaactct tcctaatgat atacctccat tccaagatga     660
tattcctgag gaaaacctct ccctggctgt gatttaccct cagtcagcct cataccctaa     720
ttcggataga gagtggtcac ccactcccag tccttccggt tcccgacctt caacacctaa     780
aagtgattca gaattggtca gcaagtccac ggaaaggaca gggcagaaga acccagaaat     840
gctttggctg tggggagagc tgccgcaggc tgctaagtct tcttctccac acaagatgaa     900
agagtccagc ccattgagca gtagaaaaat ttgtgataaa agtcactttc aggccattca     960
cagcgaatct tcagacactt ttagtgacca atcgccaact ctggtcggtg gggcactttt    1020
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```

```
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caatgataaa aatcactgta atacttcatt gtgttgtact ggatgcaaag ctagaaaata      5280
ttgcaataaa tgagaccgat gaaagac                                          5307
```

Homo sapiens 3-hydroxy-3-methylglutaryl-Coenzyme A synthase 1 (soluble), mRNA (cDNA clone IMAGE:2819708), partial cds.

```
cactcccttt cctctgctgc cgctcggtca cgcttgtgcc cgaaggagga aacagtgaca      60
gacctggaga ctgcagttct ctatccttca cacagctctt tcaccatgcc tggatcactt     120
cctttgaatg cagaagcttg ctggccaaaa gatgtgggaa ttgttgccct tgagatctat     180
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cctttaattt ttgaacgagg gcttcgtggg acacatatgc aacatgccta tgatttttac     720
aagcctgata tgctatctga atatcctata gtagatggaa aactctccat acagtgctac     780
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gaccagaata gagataaaaa tagtatctat agtggcctgg aagcctttgg ggatgttaaa    1020
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cttcatacct ctttggccat ttgtatgcat gatgtttggt ttttaaacat ggtataatga    1980
attgtgtact tctgtcagaa gaaagcagag gtactaatct ccaattaaaa aatttttaa     2040
catgtaaaaa aaaaaaaaaa aaaaaaaa                                       2068
```

Homo sapiens S100 calcium binding protein A14, mRNA (cDNA clone MGC:11012 IMAGE:3640899), complete cds.

```
agatcatgag ccatcagctc ctctggggcc agctatagga caacagaact ctcaccaaag        60
gaccagacac agtgggcacc atgggacagt gtcggtcagc caacgcagag gatgctcagg       120
aattcagtga tgtggagagg gccattgaga ccctcatcaa gaactttcac cagtactccg       180
tggagggtgg gaaggagacg ctgacccctt ctgagctacg ggacctggtc acccagcagc       240
tgccccatct catgccgagc aactgtggcc tggaagagaa aattgccaac ctgggcagct       300
gcaatgactc taaactggag ttcaggagtt tctgggagct gattggagaa gcggccaaga       360
gtgtgaagct ggagaggcct gtccgggggc actgagaact ccctctggaa ttcttggggg       420
gtgttgggga gagactgtgg gcctggaaat aaaacttgtc tcctctacaa aaaaaaaaaa       480
aaaaaaaaa                                                              489
```

Homo sapiens cDNA clone:ADBALE09, 5'end, expressed in human adrenal gland.

```
aaaatatcat ggattgaacc tcatcaattg atagcagtga gtgactgaag cttccaaatc        60
aagaaaagcc ggcaccaaga acttccattc taatctagag ctgaccagtt tgagctgatt       120
ctctctttga agagtccttc ttgattgcag tgcagtactg gcatttctga atggatgtaa       180
gtggagtatt ttagtctaaa ggcttttcaa attacttgaa ttttttaaa aattgaggag        240
ctttatttct atttaccctt ccatttttgt atatcaaatt tccattgtca ttaaaaactg       300
tatcttgaaa ctttgtgaac tgacttgctg tatttgcact ttgagctctt gaaataaatg       360
tgatttttgt gtgattaaaa caaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa       420
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aactcgctcg ggccgaattg ggcacgagcc       480
acccaccacc tttggcacag ccccttttgtt tttacaccaa taccaagaat taaggggggaa     540
gccttggcag ttttcacgtt taaaccagac tcctttgccg gaacccaacc cgncaccctg       600
ctggcctccg tc                                                           612
```

as43b01.x1 Barstead aorta HPLRB6 Homo sapiens cDNA clone IMAGE:2319913 3', mRNA sequence.

```
tttaaaaaac aaactgcaaa atggtattta tttacattaa aacatgaatt gcctgtatac   60
acacaaatat aagaggaaca atctgttatg cacaataact gtaatattta gtacatgtta  120
tacacagcag tatctgttaa gtcagtggtt tgagtgaaaa cacagtacca aaacattcct  180
gatacaaaat aagttactca ttcacatatt ctaatcatac aagacactta atattttaaa  240
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tgaaaagact tcagattgtt attcataaat gatccctttc aggatgcatt atcttttaaa  360
taaataaact aaattgactt caagactatt tataaatagc ccactaaaat atgattgaag  420
acattccttc attttattaa ggtgtagcta tatactagag aatatgctca actactgcct  480
ccaaatccaa cactgtcatt ctaattgcaa atagaattta ttaaattcca cttcaggaca  540
tgagatgagc tgcctgccct attttgtcaa tggttccaaa gcattaacgg attaagagac  600
tgc                                                                603
```

Homo sapiens drebrin 1, transcript variant 1, mRNA (cDNA clone MGC:1517 IMAGE:3356428), complete cds.

```
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caccgcctgg agctgctggc ggcttacgag gaggtgatcc gagaggagag cgcggccgac     180
tgggctctgt acacatatga agatggctcc gatgacctca agcttgcagc atcaggagaa     240
gggggcttgc aggagctttc gggacacttt gagaaccaga aggtgatgta cggcttctgc     300
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caataaatgg ctcgtgggct ctggcaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa    2580
aaaaaaaaaa aaa                                                       2593
```

Homo sapiens potentially prenylated protein tyrosine phosphatase hPRL-3 mRNA, complete cds.

```
aagagttggg ttttcttttt taattatcca aacagtgggc agcttcctcc cccacaccca      60
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gacaagcaca gggatctcgt tctcctcatt ttttgggggt gtgtggggac ttctcaggtc     180
gtgtccccag ccttctctgc agtcccttct gccctgccgg gcccgtcggg aggcgccatg     240
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ccgtgcactt gtgtccgagg agcgaggagc ccctcggcgc cttgggtggc ttctgggccc     960
tttctcctgt ctccgtactc cctctggcgg cgctggcgtg gctctg                   1006
```

Homo sapiens cell cycle progression restoration 8 protein (CPR8) mRNA, complete cds.

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aggggggaac tccagcagtt aagtggtagt cagttacatg gcaagtcaga ttctcccaat 120
gtatatactg aaaaaaagga aatagcaatc ttacgggaaa gactcactga gctggaacgg 180
aagctaacct tcgaacagca gcgttctgat ttgtgggaaa gattgtatgt tgaggcaaaa 240
gatcaaaatg gaaaacaagg aacagatgga aaaaagaaag ggggcagagg aagccacagg 300
gttaaaaata agtcaaaggg aacatttttg ggttcagtta aggaaacatt tgatgccatg 360
aagaattcta ccaaggagtt tgtaaggcat cataaagaga aaattaagca ggctaaagaa 420
gatgtgaagg aaaatctgaa aaaattctca gattcagtta aatccacttt cagacacttt 480
aaagatacca ccaagaatat ctttgatgaa aagggtaata aaagatttaa tgctacaaaa 540
gaagcagctg aaaaaccaag aacagttttt agtgactatt tacatccaca gtataaggca 600
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aaaaaaaaaa aaaaaaaaaa aaaaaaaccg tcgaaaagcg gccgccaccg cgtgga 1856

Human channel-like integral membrane protein (CHIP28) mRNA, complete cds.

gcacccggca gcggtctcag gccaagcccc ctgccagcat ggccagcgag ttcaagaaga 60
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gcagtggagg gggcaagctt                                                  1340
```

Homo sapiens STRA6 isoform 1 mRNA, complete cds, alternatively spliced.

agtcccagac gggcttttcc cagagagcta aaagagaagg gccagagaat gtcgtcccag 60
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aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aa 2732

Homo sapiens solute carrier family 7 (cationic amino acid transporter

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601440558F1 NIH_MGC_72 Homo sapiens cDNA clone IMAGE:3925214 5', mRNA sequence.

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Human DNA for insulin-like growth factor II (IGF-2); exon 7 and additional ORF

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```

nac79g07.x1 NCI_CGAP_Brn23 Homo sapiens cDNA clone IMAGE:3440820 3', mRNA sequence.

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caggggcccc ctcacttggg cgcggagccc tgggagtgga ga                        522
```

Homo sapiens hypothetical protein MGC11256, mRNA (cDNA clone MGC:60219 IMAGE:6091291), complete cds.

```
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Homo sapiens cDNA clone IMAGE:3952627, partial cds.

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PT1.1_07_C06.r tumor1 Homo sapiens cDNA 5', mRNA sequence.

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Homo sapiens cDNA FLJ12940 fis, clone NT2RP2005038, weakly similar to DNA NUCLEOTIDYLEXOTRANSFERASE (EC 2.7.7.31).

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np60h03.s1 NCI_CGAP_Br2 Homo sapiens cDNA clone IMAGE:1130741 3', mRNA sequence.

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```

Homo sapiens ALL1-fused gene from chromosome 1q, mRNA (cDNA clone IMAGE:2823316).

```
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```

Human mRNA for acetyl-coenzyme A transporter, complete cds.

```
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tttttggccc ttgaatctgc cgacttttgt aacaaatatt tgcggtttca gcctcaaccc    1140
agaggaatcg ttactctttc agatttcctt tttttctggg gaactgtatt tttaataaca     1200
acaacattgg ttgcccttct gaaaaaagaa aacgaagtat cagtagtaaa agaagaaaca     1260
caagggatca cagatactta caagctgctt tttgcaatta taaaaatgcc agcagttctg     1320
acattttgcc ttctgattct aactgcaaag attggttttt cagcagcaga tgctgtaaca     1380
ggactgaaat tggtagaaga gggagtaccc aaagaacatt tagccttatt ggcagttcca     1440
atggttcctt tgcagataat actgcctctg attatcagca aatacactgc aggtccccag     1500
ccattaaaca cattttacaa agccatgccc tacagattat tgcttgggtt agaatatgcc     1560
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ttaaataccg tgtccaatct gggaggaaac tggccttcta cagtagctct ttggcttgta     1800
gatcccctca cagtaaaaga gtgtgtagga gcatcaaacc agaattgtcg aacacctgat     1860
gctgttgagc tttgcaaaaa actgggtggc tcatgtgtta cagccctgga tggttattat     1920
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ataatcagtg cacaggagta taaaatatta ttttaaacag cgaaattaat aatataaaat     2160
gccaaatggt tgaaaaaata gaaacctttc tgtatatttg atcatatttt ttttttgcct     2220
tgtcaatgta tttaaagttt acttaaggtc aggaaattct aaaacaactt ttctggcctt     2280
gttatttgat gtatatcttt taaatttact gaccaaagca tgttttaagc tgcaatgcag     2340
tagtcacggg tggtaaccat gtagtcaggt attgttatta gtacctatca ctgctgagct     2400
gtatttaaaa ttttggtaca atatataaaa tggagaagag cttgatattc aggtactaac     2460
cacaactagt ctgacattgt tggcagttaa aatcttattt tgaattgtaa attagttaaa     2520
ttttatgtgg aatttgctga gaaaagaata tagactactg aaatgtcatt ttagttattt     2580
ttcttatgac cacattgtac aaatgaatct gtgttaaaaa gactatttta aatgtatttc     2640
ctgcttttgt aagcattaaa gatttgaatt ccaccacact gg                       2682
```

Homo sapiens SDF2L1 mRNA for SDF2 like protein 1, complete cds.

```
gctggagccg ggccggggcg atgtggagcg cgggccgcgg cggggctgcc tggccggtgc    60
tgttggggct gctgctggcg ctgttagtgc cgggcggtgg tgccgccaag accggtgcgg   120
agctcgtgac ctgcgggtcg gtgctgaagc tgctcaatac gcaccaccgc gtgcggctgc   180
actcgcacga catcaaatac ggatccggca gcggccagca atcggtgacc ggcgtagagg   240
cgtcggacga cgcgaatagc tactggcgga tccgcggcgg ctcggagggc gggtgcccgt   300
gcgggtcccc ggtgcgctgc gggcaggcgg tgaggctcac gcatgtgctt acgggcaaga   360
acctgcacac gcaccacttc ccgtcgccgc tgtccaacaa ccaggaggtg agtgcctttg   420
gggaagacgg cgagggcgac gacctggacc tatggacagt gcgctgctct ggacagcact   480
gggagcgtga ggctgctgtg cgcttacagc atgtgggcac ctctgtgttc ctgtcagtca   540
cgggtgagca gtatggaagc cccatccgtg ggcagcatga ggtccacggc atgcccagtg   600
ccaacacgca caatacgtgg aaggccatgg aaggcatctt catcaagcct agtgtggagc   660
cctctgcagg tcacgatgaa ctctgagtgt gtggatggat gggtggatgg agggtggcag   720
gtggggcgtc tgcagggcca ctcttggcag agactttggg tttgtagggg tcctcaagtg   780
cctttgtgat taaagaatgt tggtctatga                                    810
```

Homo sapiens RTN2-A (RTN2) mRNA, complete cds.

```
cccgggagga ggaggcggcg agaatggcag cggcgtcgtg ggcgcggcgg agatgagcgc      60
ccgcgacccc gggcccaggg cggcacagcc ggagtgggcg ggggtcccga tgcaggcccg     120
agggggggca tggggcaggt cctgccggtc ttcgcccact gcaaagaagc tccgtctaca     180
gcctcctcaa ctcctgattc cacagaagga gggaacgacg actctgattt tcgagagctg     240
cacacagccc gggaattctc agaggaggac gaggaggaga ccacgtcgca ggactggggc     300
acccccgggg agctgacctt ctcctacatc gcctttgatg gtgtagtggg ctccgggggc     360
cgcagggatt caactgcccg ccgcccccgc ccccagggcc gctcagtctc ggaaccacga     420
gaccagcacc ctcagcccag cctgggcgac agcttggaga gcatccccag cctgagccaa     480
tccccggagc ctggacgacg gggtgatcct gacaccgcgc ctccatccga gcgccctctg     540
gaagacctga ggcttcggtt ggaccatctg ggctgggtgg cccggggaac gggatccggg     600
gaggactctt ccaccagcag ctccaccccg ctggaagacg aagaacccca agaacccaac     660
agattggaga caggagaagc tggggaagaa ctggacctac gactccgact tgctcagccc     720
tcatcgcccg aggtcttgac tccccagctc agtccgggct ctgggacacc ccaggccggt     780
actccgtccc catcccgatc gcgagattcg aactctgggc ccgaagagcc attgctggaa     840
gaggaagaaa agcagtgggg gccactggag cgagagccag taaggggaca gtgcctcgat     900
agcacggacc aattagaatt cacggtggag ccacgccttc taggaacagc tatggaatgg     960
ttaaagacat cattgctttt ggctgtttac aagacggttc caattttgga attgtcccca    1020
cctctgtgga cagccattgg ctgggtccaa aggggcccca ccccccctac tcctgtcctc    1080
cgggttctac tgaagtgggc aaaatccccg agaagcagcg gtgtccccag cctctcactc    1140
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ggagtggtct tcacaggcct gatggtctcc ctcctctgcc tcctgcactt tagcatcgtg    1260
tccgtggccg cgcacttggc tctgttgctg ctctgcggca ccatctctct cagggtttac    1320
cgcaaagtgc tgcaggccgt gcaccggggg gatggagcca acccttccca ggcctacctg    1380
gatgtggacc tcaccctgac tcgggagcag acggaacgtt tgtcccacca gatcacctcc    1440
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caccaggctc agatcgacca atatgtgggg ttggtgacca atcagttgag ccacatcaaa    1680
gctaagatcc gagctaaaat cccagggacc ggagccctgg cctctgcagc agccgcagtc    1740
tccggatcca aagccaaagc cgaatgagaa cggtgtctct gcccgcagga cgcctgcccc    1800
cagccccccgc agccctctgg ccccctccat ctcttgtccg ttcccaccca ccccctcct    1860
cggcccgagc cttttcccgg tgggtgtcag gatcactccc actagggact ctgcgctaat    1920
tacctgagcg accaggacta catttcccaa gaggctctgc tccaggagtc caggaaagac    1980
gaggcacctt ggccgcgggg cctgctggga cttgtagttg cctagacagg gcaccaccct    2040
gcacttccgg acccgccgct ggaggcgccg tgaggcgttg gtgtctcctg gatgctacta    2100
gccccaacgc cggggctttg catggggccc aggggaggcc tgagcttgga tttacactgt    2160
aataaagact cctgtggaaa aaaaaaaaaa                                     2190
```

Homo sapiens cDNA: FLJ22209 fis, clone HRC01496.

cgatgatgag gctgaagaaa aggaagacaa agaagaagaa aaagaaaaag aagagaaaga 60
gtcggaagac aaacctgaaa ttgaagatgt tggttctgat gaagaagaag aaaagaaacc 120
aaagactaaa aaagttgaaa aaactgtctg ggactgggaa cttatgaatg atatcgttca 180
taaactttcc tatttatgta tggagcagca agactgaaac tgttgaggag cccatggagg 240
aagaagaagc agccaaagaa gagaaagaag aatctgatga tgaagctgca gtagaggaag 300
aagaagaaga aaagaaacca aagactaaaa aagttgaaaa aactgtctgg gactgggaac 360
ttatgaatga tatcgttcat aaactttcct atttatgtat ggagcagcaa gactgaaact 420
gttgaggagc ccatggagga agaagaagca gccaaagaag agaaagaaga atctgatgat 480
gaagctgcag tagaggaaga agaagaagaa aagaaaccaa agactaaaaa agttgaaaaa 540
actgtctggg actgggaact tatgaatgat atcgttcata aactttccta tttatgtatg 600
gagcagcaag actgaaactg ttgaggagcc catggaggaa gaagaagcag ccaaagaaga 660
gaaagaagaa tctgatgatg aagctgcagt agaggaagaa gaagaagaaa agaaaccaaa 720
gactaaaaaa gttgaaaaaa ctgtctggga ctgggaactt atgaatgata tcgttcataa 780
actttcctat ttatgtatgg agcagcaaga ctgaaactgt tgaggagccc atggaggaag 840
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aagaagaaaa gaaaccaaag actaaaaaag ttgaaaaaac tgtctgggac tgggaactta 960
tgaatgatat cgttcataaa ctttcctatt tatgtatgga gcagcaagac tgaaactgtt 1020
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gctgcagtag aggaagaaga agaagaaaag aaaccaaaga ctaaaaaagt tgaaaaaact 1140
gtctgggact gggaacttat gaatgatatc gttcataaac tttcctattt atgtatggag 1200
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agaagaatct gatgatgaag ctgcagtaga ggaagaagaa gaagaaaaga aaccaaagac 1320
taaaaaagtt gaaaaaactg tctgggactg ggaacttatg aatgatatcg ttcataaact 1380
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gagcccatgg aggaagaaga agcagccaaa gaagagaaag aagaatctga tgatgaagct 1680
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tgggactggg aacttatgaa tgatatcgtt cataaacttt cctatttatg tatggagcag 1800
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agaatctgat gatgaagctg cagtagagga agaagaagaa gaaaagaaac caaagactaa 1920
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ctatttatgt atggagcagc aagactgaaa ctgttgagga gcccatggag gaagaagaag 2040
cagccaaaga agagaaagaa gaatctgatg atgaagctgc agtagaggaa aaaaaaaaaa 2100

Homo sapiens UDP-N-acetylglucosamine-2-epimerase mRNA, complete cds.

```
cggcgtctgg aactctattt tagaacctct caaaacgaaa caagcaaatc atggagaaga      60
atggaaataa ccgaaagctg cgggtttgtg ttgctacttg taaccgtgca gattattcta     120
aacttgcccc gatcatgttt ggcattaaaa ccgaacctga gttctttgaa cttgatgttg     180
tggtacttgg ctctcacctg atagatgact atggaaatac atatcgaatg attgaacaag     240
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tggtggagtc agtaggcctg gccctagtga agctgccaga tgtccttaat cgcctgaagc     360
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actctatcag acatgccata acaaaactgg ctcattatca tgtgtgctgc acccgcagtg     540
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gaatgtttca cttttgtctc ctcttccaga gtcaccttcc ccactcta                 2388
```

Homo sapiens carcinoembryonic antigen 2a (CGM2) mRNA, complete cds.

```
gccatgggtt ccccttcagc ctgtccatac agagtgtgca ttccctggca ggggctcctg      60
ctcacagcct cgcttttaac cttctggaac ctgccaaaca gtgcccagac caatattgat     120
ggtgtgccgt tcaatgtcgc agaagggaag gaggtccttc tagtagtcca taatgagtcc     180
cagaatcttt atggctacaa ctggtacaaa gggcaaaggg tgcatgccaa ctatcgaatt     240
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gagacaatat accccaatgg aaccctgctg atccagaacg tcacccacaa tgacgcagga     360
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caagcaagtt cacctgacct ctcagctggg accgctgtca gcatcatgat tggagtactg     780
gctgggatgg ctctgatata gcag                                           804
```

yh42a11.r1 Soares placenta Nb2HP Homo sapiens cDNA clone IMAGE:132380 5', mRNA sequence.

```
ggtttttaca agagtaacac atttaaattt acagaggtaa gaatttcctt ggagaaatag        60
gtgctggtga taataggagt atctttcttt tccatatcaa cataattata ataaataact       120
cacagattta aaggcttatt ttgtgccagg cattctgctg agtgctttac atacatgtct       180
catgtaatcc tcccaacagc tctgcaggga caggagttta tgattatctt gattttatag       240
gaataggtaa tgtaatgctc agagagggtt aaacatctgg gttaggtcac acaggctaat       300
ccaatactta ggttttaagg ttttgaggac tgggggtgcn gtgggctcca cggcctgtaa       360
tccccnggca ctttgggggа ggcntaggcc gggnccggtc cccggggtcn ggggtcccng       420
gcccctccgg                                                              430
```

Homo sapiens immediate early response 3, transcript variant short, mRNA

```
ctccgctcgg ctcaccatgt gtcactctcg cagctgccac ccgaccatga ccatcctgca        60
ggccccgacc ccggcccccc ccaccatccc gggaccccgg cggggctccg gtcctgagat       120
cttcaccttc gaccctctcc cggagcccgc agcggccccc gccgggcgcc ccagcgcctc       180
tcgcgggcac cgaaagcgca gccgcagggt tctctaccct cgagtggtcc ggcgccagct       240
gccagtcgag gaaccgaacc cagccaaaag gcttctcttt ctgctgctca ccatcgtctt       300
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cagcatctca actccgtctg tctactgtgt gagacttcgg cggaccatta ggaatgagat      1080
ccgtgagatc cttccatctt cttgaagtcg cctttagggt ggctgcgagg tagagggttg      1140
ggggttggtg ggctgtcacg gagcgactgt cgagatcgcc tagtatgttc tgtgaacaca      1200
aataaaattg atttactgtc tgcaaaaaaa aaaaaaaa                              1238
```

7f03b12.x1 NCI_CGAP_CLL1 Homo sapiens cDNA clone IMAGE:3293567 3', mRNA sequence.

ggtatttact tagctatgat aaagaataaa aagtcattta aaaaacgcga taggacagat 60
aacagactca caacgtattt agatttaaac actgctggtc tacgtaacct gttacaaaag 120
agagcaaaac ctaactgtca gcatagacat taaagctcac cgttgattat agctcagggc 180
ctgctcagca ttgtttaaaa agggtcactc acagttttgt caaagagtgc tggtgttctc 240
tatgaactca taaactgttt tatctgaaaa ggtgattttc taagtagtgt aagccatggg 300
tacatggtgc aaaaagttca tgttctcact cagctggtga gcgaaggatg ggagcagaga 360
acagagctaa aacccctggt tttcctttcc ccagatgtaa agcctgctag ctggaactca 420
cagaagattg gaacaaaaag ataggagatg gacacctgng ggactgctcc agcacgaagg 480
gaagcgatga gcatcacaca gcag 504

human full-length cDNA 3-PRIME end of clone CS0DA009YG15 of NEUROBLASTOMA of Homo sapiens (human)

```
ttttttttt atttytttaw cacttccaat aaactagcat aagttttatt acaacatata      60
cagatttgat acagtttaca aaaaaaacta gatttttcaa ctaaataaaa atgtctttta     120
ascmvtkvaa gttggcttag agacatggta ttttttcttc aaaactgtgt ttctacaatg     180
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akctctgata tctttagtaa agaatacaaa accctgtktt tcttaaaawc ctaatgctga     300
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acctgagacc tctctgaaga gccaaaaaca agtggctgtc tcagtgatmc atctattcat     960
cctcacaaga catgcattga gctttttttat tcacagattt atgttagtcc ttagacccat    1020
gccatgtcca gttcagactg tcggctatca ggygtcttct tgtgcactcy tggagtctgt    1080
aattgwytcg actgtgtgat mtgtrctttg amarwgtctg cgccatgtgc atagtgacat    1140
cccagcatac gkccmcmcaw tcggcastgc ggctttcccg gwtwctttct gcctkaacca    1200
g                                                                    1201
```

602288121F1 NIH_MGC_97 Homo sapiens cDNA clone IMAGE:4373861 5', mRNA sequence.

```
agcgtggctg gtgaggaagc cgtcgggagc cgccgccgcc atctgaggga ggtaccctgg        60
aaaccacctt ttatcggtgg ggaagtgcag tcgcggtggg cggctctggg ggccagcgaa       120
acgggaggcc tctaaatctt tagttggggc tgcattgccc tggagccgca ctcttgagtc       180
cgaggccatc ttttgttgga gaaggcgtcg gcgttggcgt tttcccgagg ttgggctgta       240
cagtgtctcc gtccgcggaa aaagaagcct ctgaacccgc gccggcccgc agcccccgtg       300
ccttccggcc gctgctcgcc gtcgccagag gctaggccac gtttccccca gtgccgaggt       360
gtttctgtga ccctccctcc actcccattc ccttctgaaa gggcacctgc tcttggtgag       420
aaaagaaatt atagcacgaa gagccagtat cagaagagta tccatcaccc gcagcaaccg       480
ctcagggaac accatcaaaa aagaacaaaa agggaatatc tggatttcct gggcgaggag       540
gagcgagtct gctcgggagc tgttccagca ggcgattttt aaatactggt ttctacgccc       600
tatacaactt ggcttcacat acttttacaa cttaaccttt ttatgatttt aaaaaactgg       660
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cggcccttgg gacctcactt gtgggaacct taacccatcg agacagaaat ccggtgacgg       780
cgccaagaag ctggaccagg ggcttcggcg tcgaccacac ctgttagagc cggaccatgg       840
cccgagccgc ggcggggccc cggaggccac aggccaaggc gggcgaggca gcgctcgaaa       900
acacggtgac cccaagaggg agaagccact agcgcagaag ggaan                       945
```

Homo sapiens organic anion transporter polypeptide-related protein 1 (OATPRP1) mRNA, complete cds.

```
ggcacgaggc gctgcgcggc gcggcggccg ggccctcgag acggggacgg acacaccagc      60
ccctcggata ccacttggcc actcccgctg aggccactcc cactgcgtgg ctgaagcctc     120
gaggtcacca ggcggaggcg cggagatgcc cctgcatcag ctgggggaca agccgctcac     180
cttccccagc cccaactcag ccatggaaaa cgggcttgac cacaccccac ccagcaggag     240
ggcatccccg ggcacacccc tgagccccgg ctccctccgc tccgctgccc atagcccccc     300
ggacaccagc aagcagcccc tctgccagct ctgggccgag aagcatggcg cccgggggac     360
ccatgaggtg cggtacgtct cggccgggca gagcgtggcg tgcggctggt gggccttcgc     420
accgccgtgc ctgcaggtcc tcaacacgcc caagggcatc ctgttcttcc tgtgtgcggc     480
cgcattcctg caggggatga ctgtgaatgg cttcatcaac acagtcatca cctccctgga     540
gcgccgctat gacctgcaca gctaccagag cgggctcatc gccagctcct acgacattgc     600
cgcctgcctc tgcctcacct tcgtcagcta cttcgggggc tcagggcaca agccgcgctg     660
gctgggctgg ggcgtgctgc ttatgggcac ggggtcgctg gtgttcgcgc tgccccactt     720
cacggctggc cgctatgagg tggagttgga cgcgggtgtc aggacgtgcc ctgccaaccc     780
cggcgcggtg tgtgcggaca gcacctcggg cctgtcccgc taccagctgg tcttcatgct     840
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aatgggccga cggacggagc tgaccaccga gagcccactg tgggtcggcg cctggtgggt    1080
cggcttcctg ggctctgggg ccgctgcttt cttcaccgcc gttcccatcc ttggttaccc    1140
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gaaggacagc agccgtgggg aggcgagcaa cccggacttt gggaaaacca tcagagacct    1260
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cctcagcagc attcctgcac taacggcaac tctacgatgt gtccgtgacc ctcagagatc    1980
ctttgccctg ggaatccagt ggattgtagt tagaatacta gggggcatcc cggggcccat    2040
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gggctcctgc ttggtgtacc agaattcggc catgagccgc tacatactca tcatggggct    2160
cctgtacaag gtgctgggcg tcctcttctt tgccatagcc tgcttcttat acaagccccc    2220
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tgccacagat agccagctcc agagcagcgt ctgaccaccg cccgcgccca cccggccacg    2340
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aacttctatt tgacctgcaa ccttctactt aacctgtggt ttaaagtcgg ctgtgacctc    2460
ctgtccccag agctgtacgg ccctgcagtg ggtgggagga acttgcataa atatatattt    2520
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tggtgtgcgt gaggacaaac tccgcagggg ctgtgaatcc cactgggagg gcggcgggcc    2640
tgcagcccga ggaaggcttg tgtgtcctca gttaaaactg tgcatatcga aatatatttt    2700
gttatttaag cctgcgaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa    2760
aaa                                                                 2763
```

Homo sapiens cDNA: FLJ21243 fis, clone COL01164.

```
acaagaatga atgaatgtct ttgtcttaaa ttttgcccat gtgttaaaag atgtaattct      60
cagaatggga gagaaatgac tacctttgtt cctactcttt tatataatta tccttttagg     120
gaaagacttg gtcaactcta atatatctag aaggaagact atatctggtg tagactaata     180
tgagatgttt tagaagagtt aacctgaaca ctttgaggga gagattattc ttgccagcaa     240
aaagctagcc aggaatgagc ctaccacatt atttgagaat atcaaacctc aggcctgggg     300
ggttgagggg aagaagatta ccagaagtgc aggaaagaga agtttgagga acacccttgg     360
cttagcaaca tgtgataatg caaagctgtt ataacctgtt aatcctacgt actatgtgtt     420
ctgtaccttt acatgttttt aaatttaaga tagtttgtaa gaactgtaca aaaaaatgct     480
tctggagatt tctttggcag aaatgccttt catctataat ttcatggaga actgctttaa     540
ttagcctagg tgaaaagtag tcctagcagt gtaaatatgt ataattagag ttttctaatt     600
tcactgtgag atctctaact tttgagtggc aaacagatca agtcttttgc tcatagactt     660
ttctgtgggg ttattaaaat gcaaaagctt tatttttttt aataatgcca tactccatta     720
gtgtcagatg atggtatgga atttgttccc ttgctttccc ccactgttac tgcttcagtt     780
tatagattgc cagcagagtt cagaaataga gcagggattt acccgttctt tgcttggaca     840
tcccattttc ttttgtccag acccatgttg gcaatcatgt atgaactgtg ttatacttct     900
cagtgctttc ttttttcttt ttgataagat ggatatcaaa aatagttgct gtgcaaaagt     960
tagtagtctt cttcaagaag aaaaccaatt ctttttctaa taatatcctg tgaaattgct    1020
tcattcattc atttattttt aagccaaatg tcagcagagt gctgctgctt ttatctagta    1080
attttgatat gtaagtatta atgcattttt aaaagatgtc tacattgaaa catgttcttc    1140
ccagtgtcct gcttatgatg ctttgttcag atttttttgta agagaccagt tagtacactg    1200
ggggtgtata ttgtgtacat gtgtcatttt agttaggcat tgtaggccaa atgtgattat    1260
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tccagtttac cttctgttgt ctacagcttt tttaatttta aggtttgact aattgtatcc    1380
atctcattgt acagtgtttt agttgcaagc agaaagtaga atttggtata aagcaggtta    1440
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attctaactt gtctattcta acctattgtg tacaatctga ttttttaaaa ttgtaaacat    1560
gtatgatctt ggtttcatgt gtttttgaaa gtgttattgt ttaaaaaatg aaaaaagcat    1620
atctgctaaa gagctgtcag ttttcattac tgactctgta aaatacactg ttctttgtgt    1680
actgtgtgtt attttgccag ctgctgcatt agccttcaaa agtatttgga aacttaagat    1740
gaactacatt tcttgcaaag tacattcctt tctgtggtat tttgtcctgt aactgaagta    1800
tagtaattat tttatggaaa tgttagcaat tctgtaccaa ctttgaataa aatgaaaaat    1860
ttaaaaaaaa aaaaaaaaaa                                               1880
```

ab38f03.s1 Stratagene HeLa cell s3 937216 Homo sapiens cDNA clone IMAGE:843101 3' similar to contains Alu repetitive element;, mRNA sequence.

```
ttttgagatg aagtctcgcg ctcttgtccc ctaggctgga gtgcaatgat gcgatcttgg      60
ctaactgcag cttctgcccc ttgggttcaa gtgattctcc tgcctcagcc tcccgagtag     120
ctgggattac aggcgcctgc caccacgccc ggctaatttt tatattttta gttgagacag     180
ggtttcacca tgttggccag gctgatctcg aactcctgac ctcaggtgat tcgcccgcct     240
cagcctccca aagtgctggg attacaggca tgagccaccg tgccggacct atttaaaaat     300
ctttttgaag tacagtacta ataaactaag gactacctag agatcacact tttagatatt     360
atctatttta acatagatta aaaatactgt ttatatgaaa attaagctta aatacacgta     420
taggtaataa ttattttgcc catatacaag taatgtaaac agag                      464
```

Homo sapiens KPL1 (KPL1) mRNA, complete cds.

```
aagaaatggc cctggtgagg ggcggctggc tgtggagaca gagctccatc ctccgccgct      60
ggaagcggaa ctggtttgcc ctgtggctgg acgggaccct gggatactac cacgatgaga     120
cagcgcagga cgaggaggac cgtgtgctca tccacttcaa tgtccgtgac ataaagatcg     180
gcccagagtg ccatgatgtg cagcccccag agggccggag ccgagatggc ctgctgactg     240
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tagactcctc ttcctcctgg accccatcct ctaccatcca agccctgtcc cactttggcc     780
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ccccacatgg gaagaagcta tcatcacagg tacaaacatc gcttgaagtc ttcacatcta     900
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cagggcacag caaatacgac ttcatttggc ttcgagttcc ccaggcgctg tagacacaac    1020
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taaaccaagg acttgaacaa agctgaagag ttatcagtcc tttgacaagg acaggtgggg    1140
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tcctggctgg tacccatgat aacaattgag ctgaacctgg ggacccctgg ttggggaaca    1500
ggtgagttct atttgagact tccagcccta gaaagctgcc tccgtccaga aatgcctctc    1560
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atccttcatt ctgaataaga tggcagtgtt ctcctctggg gcctgatcca cctctacacc    1680
agcccaggaa gccccatctg tgcctgccct caggtggtcc accagtctcc ccctttggtt    1740
cccttccagt ctcttccccc tttctatccc aatcaccaat agaaatgcta acatccctgc    1800
ctggtagcca ga                                                       1812
```

Homo sapiens carboxypeptidase, vitellogenic-like, transcript variant 2, mRNA (cDNA clone MGC:10029 IMAGE:3888647), complete cds.

```
agcgctgcaa ggacaaccgg ctggggtcct tgcgcgccgc ggctcaggga ggagcaccga      60
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tcgcctcggt ccctcggact tagggagcgc ggggcagacc ctgagagatg gttggtgcca     180
tgtggaaggt gattgtttcg ctggtcctgt tgatgcctgg cccctgtgat gggctgtttc     240
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acagtgaagt ggctggttac atccggcaag tgggtgactt ccatcaggta attattcgag    1500
gtggaggaca tattttaccc tatgaccagc ctctgagagc ttttgacatg attaatcgat    1560
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tcagaggttt tcattgctga aaagaaaatc gtaaaaacag aaaatgtcat aggaataaaa    1680
aaattatctt ttcatatctg caagattttt ttcatcaata aaaattatcc ttgaaaaaaa    1740
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aa                                   1772
```

Homo sapiens teratocarcinoma-derived growth factor 1, mRNA (cDNA clone MGC:24110 IMAGE:4615416), complete cds.

```
agtttcccct ggacgccttg ctcctgcttc tgctacgacc ttctggggaa aacgaatttc      60
tcattttctt cttaaattgc catttcgct ttaggagatg aatgttttcc tttggctgtt     120
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gatgatcatt tgtagttgcc ttaaaataat gaatacattt ccaaaatggt ctctaacatt     900
tccttacaga actacttctt acttctttgc cctgccctct cccaaaaaac tacttctttt     960
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tttttgagac ggagtctcac tctgtcaccc aggctggact gcaatgacgc gatcttggtt     1080
cactgcaacc tccgcatccg gggttcaagc cattctcctg cctcagcctc ccaagtaact     1140
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tcaaaatcaa ttaaaatagt ctctttaaaa ggaaagaaaa catctttaag gggaggaacc     1500
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gaagcaaata gaagagagag gttgaaaaac aaaatgggtt acttgattgg tgattaggtg     1620
gtggtagaga agcaagtaaa aaggctaaat ggaagggcaa gtttccatca tctatagaaa     1680
gctatataag acaagaaatc ccctttttt cccaaaggca aaaaaaaaaa aaaaaaaaaa     1740
aaaaaaaa                                                             1748
```

Homo sapiens lipase mRNA, complete cds.

```
gccgggtcgg ggcggggcgg cttttctgtc ggaggacgcg aaccggcacg ctgcgccttt    60
aaggagtccg gctgggctgg gcgccggagc tgggagccgc gcgggtagga gcccggcggc   120
aggtcccagc ccggggctag agaccgaggg ccggggtccg ggcccggcgg cgggacccag   180
gcggttgagg ctggtcagaa tctcattttc aggacccagg cggttgaggc tggtcaggag   240
tcagccagcc tgaaagagca ggatggatct tgatgtggtt aacatgtttg tgattgcggg   300
cggcacgctg gccatcccaa tcctggcatt tgtggcttca tttcttctgt ggccttcagc   360
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catcctcatg ctccacggat tctctgccca caaggatatg tggctcagtg tggtcaagtt   540
ccttccaaag aacctgcact tggtctgcgt ggacatgcca ggacatgagg gcaccacccg   600
ctcctccctg gatgacctgt ccatagatgg gcaagttaag aggatacacc agtttgtaga   660
atgcctgaag ctgaacaaaa aacctttcca cctggtaggc acctccatgg gtggccaggt   720
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gcttcagctc tgctcctatg tccgcttcaa ggtgccccag cagatcctgc aaggccttgt   960
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caacaagaag ctggacttga aggcccccaa ctgcagcctg gaatttttga acacagcatt  1320
ctgcttccca ttccccccaag ttttgacgca gccaaccatt tttaagggat tcctgcccca  1380
aattgcggtt ggaagcgcca attgacccct ggaggaaagc ccgtcccctt attccccggg  1440
tatccacggt tccccagagc tttggggacc acggcgaaaa cctccaagat a            1491
```

Homo sapiens v-fos FBJ murine osteosarcoma viral oncogene homolog, mRNA (cDNA clone MGC:11074 IMAGE:3688670), complete cds.

```
ccaagactga gccggcggcc gcggcgcagc gaacgagcag tgaccgtgct cctacccagc      60
tctgcttcac agcgcccacc tgtctccgcc cctcggcccc tcgcccggct ttgcctaacc     120
gccacgatga tgttctcggg cttcaacgca gactacgagg cgtcatcctc ccgctgcagc     180
agcgcgtccc cggccgggga tagcctctct tactaccact cacccgcaga ctccttctcc     240
agcatgggct cgcctgtcaa cgcgcaggac ttctgcacgg acctggccgt ctccagtgcc     300
aacttcattc ccacggtcac tgccatctcg accagtccgg acctgcagtg gctggtgcag     360
cccgccctcg tctcctctgt ggccccatcg cagaccagag cccctcaccc tttcggagtc     420
cccgcccccc ccgctggggc ttactccagg gctggcgttg tgaagaccat gacaggaggc     480
cgagcgcaga gcattggcag gaggggcaag gtggaacagt tatctccaga agaagaagag     540
aaaaggagaa tccgaaggga aaggaataag atggctgcag ccaaatgccg caaccggagg     600
agggagctga ctgatacact ccaagcggag acagaccaac tagaagatga gaagtctgct     660
ttgcagaccg agattgccaa cctgctgaag gagaaggaaa aactagagtt catcctggca     720
gctcaccgac ctgcctgcaa gatccctgat gacctgggct tcccagaaga gatgtctgtg     780
gcttcccttg atctgactgg gggcctgcca gaggttgcca ccccggagtc tgaggaggcc     840
ttcaccctgc ctctcctcaa tgaccctgag cccaagccct cagtggaacc tgtcaagagc     900
atcagcagca tggagctgaa gaccgagccc tttgatgact tcctgttccc agcatcatcc     960
aggcccagtg gctctgagac agcccgctcc gtgccagaca tggacctatc tgggtccttc    1020
tatgcagcag actgggagcc tctgcacagt ggctccctgg ggatggggcc catggccaca    1080
gagctggagc ccctgtgcac tccggtggtc acctgtactc ccagctgcac tgcttacacg    1140
tcttccttcg tcttcaccta ccccgaggct gactccttcc ccagctgtgc agctgcccac    1200
cgcaagggca gcagcagcaa tgagccttcc tctgactcgc tcagctcacc cacgctgctg    1260
gccctgtgag ggggcaggga aggggaggca gccggcaccc acaagtgcca ctgcccgagc    1320
tggtgcatta cagagaggag aaacacatct tccctagagg gttcctgtag acctagggag    1380
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tgtctctttt ctctttctcc ttagtcttct catagcatta actaatctat tgggttcatt    1620
attggaatta acctggtgct ggatattttc aaattgtatc tagtgcagct gattttaaca    1680
ataactactg tgttcctggc aatagtgtgt tctgattaga aatgaccaat attatactaa    1740
gaaaagatac gactttattt tctggtagat agaaataaat agctatatcc atgaaaaaaa    1800
aaaaaaaaaa aaaa                                                      1814
```

Homo sapiens endoplasmic reticulum lumenal Ca2+ binding protein grp78 mRNA, complete cds.

```
atgaagctct ccctggtggc cgcgatgctg ctgctgctca gcgcggcgcg ggccgaggag      60
gaggacaaga aggaggacgt gggcacggtg gtcggcatcg acctggggac cacctactcc     120
tgcgtcggcg tgttcaagaa cggccgcgtg gagatcatcg ccaacgatca gggcaaccgc     180
atcacgccgt cctatgtcgc cttcactcct gaaggggaac gtctgattgg cgatgccgcc     240
aagaaccagc tcacctccaa ccccgagaac acggtctttg acgccaagcg gctcatcggc     300
cgcacgtgga atgacccgtc tgtgcagcag gacatcaagt tcttgccgtt caaggtggtt     360
gaaaagaaaa ctaaaccata cattcaagtt gatattggag gtgggcaaac aaagacattt     420
gctcctgaag aaatttctgc catggttctc actaaaatga aagaaaccgc tgaggcttat     480
ttgggaaaga aggttaccca tgcagttgtt actgtaccag cctattttaa tgatgcccaa     540
cgccaagcaa ccaaagacgc tggaactatt gctggcctaa atgttatgag gatcatcaac     600
gagcctacgg cagctgctat tgcttatggc ctggataaga gggaggggga gaagaacatc     660
ctggtgtttg acctgggtgg cggaaccttc gatgtgtctc ttctcaccat tgacaatggt     720
gtcttcgaag ttgtggccac taatggagat actcatctgg gtggagaaga ctttgaccag     780
cgtgtcatgg aacacttcat caaactgtac aaaaagaaga cgggcaaaga tgtcaggaaa     840
gacaatagag ctgtgcagaa actccggcgc gaggtagaaa aggccaaacg ggccctgtct     900
tctcagcatc aagcaagaat tgaaattgag tccttctatg aaggagaaga cttttctgag     960
accctgactc gggccaaatt tgaagagctc aacatggatc tgttccggtc tactatgaag    1020
cccgtccaga aagtgttgga agattctgat ttgaagaagt ctgatattga tgaaattgtt    1080
cttgttggtg gctcgactcg aattccaaag attcagcaac tggttaaaga gttcttcaat    1140
ggcaaggaac catcccgtgg cataaaccca gatgaagctg tagcgtatgg tgctgctgtc    1200
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gttacaatca aggtctatga aggtgaaaga cccctgacaa aagacaatca tcttctgggt    1440
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aaaaataaga tcacaatcac caatgaccag aatcgcctga cacctgaaga aatcgaaagg    1620
atggttaatg atgctgagaa gtttgctgag gaagacaaaa agctcaagga gcgcattgat    1680
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aagattgaat ggctggaaag ccaccaagat gctgacattg aagacttcaa agctaagaag    1860
aaggaactgg aagaaattgt tcaaccaatt atcagcaaac tctatggaag tgcaggccct    1920
cccccaactg gtgaagagga tacagcagaa aaagatgagt tgtag                    1965
```

Homo sapiens S100 calcium binding protein A2, mRNA (cDNA clone MGC:3847 IMAGE:3659591), complete cds.

```
ctcccctcac cccggtccag gatgcccagt ccccacgaca cctcccactt cccactgtgg        60
cctgggtggg ctcaggggct gcccttgacc tggcctagag ccctccccca gctggtggtg       120
gagctggcac tctctgggag ggaggggggct gggagggaat gagtgggaat ggcaagaggc      180
cagggtttgg tgggatcagg ttgaggcagg tttggtttcc ttaaaatgcc aagttggggg       240
ccagtggggc ccacatataa atcctcaccc tgggagcctg gctgccttgc tctccttcct       300
gggtctgtct ctgccacctg gtctgccaca gatccatgat gtgcagttct ctggagcagg       360
cgctggctgt gctggtcact accttccaca agtactcctg ccaagagggc gacaagttca       420
agctgagtaa gggggaaatg aaggaacttc tgcacaagga gctgcccagc tttgtggggg       480
agaaagtgga tgaggagggg ctgaagaagc tgatgggcag cctggatgag aacagtgacc       540
agcaggtgga cttccaggag tatgctgttt tcctggcact catcactgtc atgtgcaatg       600
acttcttcca gggctgccca gaccgaccct gaagcagaac tcttgacttc ctgccatgga       660
tcttttgggc ccaggactgt tgatgccttt gagttttgta ttcaataaac tttttttgtc       720
tgttgaaaaa aaaaaaaaaa aaaaaaaaa                                         749
```

wa01c11.x1 NCI_CGAP_Kid11 Homo sapiens cDNA clone IMAGE:2296820 3', mRNA sequence.

acttccttca ctagttacga caaaatttaa gaggaataac aaatacaaat tttctgttaa 60
gaacggaaag gtgcaaacta gcagagtcaa tactggtaac cagaaggcac taatccaaac 120
acataaattt caaaagctgg ttatattatg gaataccata tatactggcc tttgccagtt 180
tgggatttct gcaatagcaa taagcctcgt ttctgtttcc aattataaca acaaaaagat 240
gagttactaa tgaacattcc acttacagaa gtctaggcta tgttgataaa ttgaaaactt 300
atctagacta ctctgtctaa gagcaataaa aagtaaacac tcttttatcc agcagcacta 360
ggaaacaggg tgaatttacc aagataaatt aggttgggga tacctactgc caacttgtgc 420
ggttgtcgaa ttcactgtaa tatgtattcc tcttattgat agagctctga atgtaaacaa 480
ccta 484

Human 150 kDa oxygen-regulated protein ORP150 mRNA, complete cds.

```
ttgtgaaggg cgcgggtggg gggcgctgcc ggcctcgtgg gtacgttcgt gccgcgtctg      60
tcccagagct ggggccgcag gagcggaggc aagaggggca ctatggcaga caaagttagg     120
aggcagaggc cgaggaggcg agtctgttgg gccttggtgg ctgtgctctt ggcagacctg     180
ttggcactga gtgatacact ggcagtgatg tctgtggacc tgggcagtga gtccatgaag     240
gtggccattg tcaaacctgg agtgcccatg gaaattgtct tgaataagga atctcggagg     300
aaaacaccgg tgatcgtgac cctgaaagaa aatgaaagat tctttggaga cagtgcagca     360
agcatggcga ttaagaatcc aaaggctacg ctacgttact tccagcacct cctggggaag     420
caggcagata acccccatgt agctctttac caggcccgct tcccggagca cgagctgact     480
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cagcccatca aggatgcagt gatcaccgtg ccagtcttct tcaaccaggc cgagcgccga     660
gctgtgctgc aggctgctcg tatggctggc ctcaaagtgc tgcagctcat caatgacaac     720
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ccattcatct ccacccccctt cccccaccac ttctatttat ttaacatcga gggttggggg    3180
aggggttggt cctgccctcg gctggagttc ctttctcacc cctgtgattt ggaggtgtgg    3240
```

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gggaaaaatc actattaatt tctgaatcct ttgcctgtgg gtaggaagag aatggctgcc 3420
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cacctcttct gtatgtttga attctttcag tagctgttga tgctggttgg acaggtttga 4440
gtcaaattgt actttgctcc attgttaatt gagaaactgt ttcaataaaa tattcttttc 4500
tac 4503

Homo sapiens s-CaBP1 (CABP1) mRNA, complete cds.

```
aagtccctca gtcccccagg agcctccttc atggacccgg ggatcccaag aggggctgcc    60
tcaacttagg atgggcaact gtgtcaagta tccactgaga aatctctcaa ggaaggatag   120
atcactgcga ccagaggaaa ttgaagagct ccgagaggcc ttcagagaat tcgacaagga   180
caaggatggc tacatcaact gccgggatct gggcaactgc atgcgcacca tgggctacat   240
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ctttgaagag tttgtccgga tgatgtcccg ctgaggccgc gagggcccct ccaggactgc   600
caagctccca aaggcggggc taagaggagc tagagcttgc ctcacccgct gtagccgccg   660
agagcccagg atgtactggc ggatggggcc tgcctgcacc ccggggcgga attc         714
```

Homo sapiens cDNA FLJ12397 fis, clone MAMMA1002769, weakly similar to Homo sapiens cell cycle progression restoration 8 protein (CPR8) mRNA.

```
ataagaggcg tcattggcgc ccgagctgtg accgccgcca ctggggcagc cagcacaatc      60
gggcggaggt ggcgctgccc cttcagacct gaaagatgtc tgaaaattcc agtgacagtg     120
attcatcttg tggttggact gtcatcagtc atgaggggtc agatatagaa atgttgaatt     180
ctgtgacccc cactgacagc tgtgagcccg ccccagaatg ttcatcttta gagcaagagg     240
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aagaaactgc ttatccagct ttggaggaaa ccagctcaac aattgaggca gaggaacaaa     360
agatacccga agacagtatc tatattggaa ctgccagtga tgattctgat attgttaccc     420
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atcagcccag tcctgccttt agacgacgcc gtgctaggaa gaagaccgtt tctgcttcag     660
aatctgaaga ccggctagtt gctgaacaag aaactgaacc ttctaaggag ttgagtaaac     720
gtcagttcag tagtggtctc aataagtgtg ttatacttgc tttggtgatt gcaatcagca     780
tgggatttgg ccatttctat ggcacaattc agattcagaa gcgtcaacag ttagtcagaa     840
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aggaatatga agtagataat gatggagtat ttgagaagtt ggatgaatat atatatagac    1140
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caaatcttga aatagaattg gggcaattac cttttgatcc tcaatactga ttcacaattg    1380
agttaaatta gacaactgta agagaaaaat ttatgctttg tataatgttt ggtattgaaa    1440
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ctttatatta ttcctcagaa gcattagtta aaagtctact aacctgcatt ttcctgtagt    1560
ttagcttcgt tgaatttttt ttgacactgg aaatgttcaa ctgtagtttt attaaggaag    1620
ccaggcatgc aacagatttt gtgcatgaaa tgagacttcc tttcagtgta agagcttaaa    1680
gcaagctcag tcatacatga caaagtgtaa ttaacactga tgtttgtgtt aaatttgcag    1740
cagagcttga gaaaagtaca ttgttctgga atttcatcat taacatttta taatcttaca    1800
ctcacttctt gtctttttgt gggttcagga gccctctgac ttgtgaagaa tttgctgccc    1860
tcttaagagc ttgctgactt gttttcttgt gaaatttttt gcacatctga atatcgtgga    1920
agaaacaata aaactacacc atgag                                         1945
```

hn58g08.x1 NCI_CGAP_Kid11 Homo sapiens cDNA clone IMAGE:3032126 3', mRNA sequence.

```
cattgcttta cgtagatagt aaactatgca tagtatttta tttgtaaccc catgtgttaa    60
gaagggacac tgttaaagta acaatcattt aaaagtaaca accaacaaac tggtatttaa   120
tttggtattt taaatagtta aaaatcaaat ggaaacagtg tctaaagtca ctaagataat   180
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acctaaaatg tacctgtgga gataaaacaa gagtgtaagt tagcaaagta ttaaataaaa   300
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atatttcact agtttgaaat agtcatttca gtgattagtc tgaatttcta ttgaagccta   540
agctttg                                                            547
```

Homo sapiens cDNA FLJ13465 fis, clone PLACE1003493, weakly similar to ENDOTHELIAL CELL MULTIMERIN PRECURSOR.

```
aagacaacgt cactagcagt ttctggagct acttgccaag gctgagtgtg agctgagcct      60
gccccaccac caagatgatc ctgagcttgc tgttcagcct tgggggcccc ctgggctggg     120
ggctgctggg ggcatgggcc caggcttcca gtactagcct ctctgatctg cagagctcca     180
ggacacctgg ggtctggaag gcagaggctg aggacaccag caaggacccc gttggacgta     240
actggtgccc ctacccaatg tccaagctgg tcaccttact agctctttgc aaaacagaga     300
aattcctcat ccactcgcag cagccgtgtc cgcagggagc tccagactgc cagaaagtca     360
aagtcatgta ccgcatggcc cacaagccag tgtaccaggt caagcagaag gtgctgacct     420
ctttggcctg gaggtgctgc cctggctaca cgggccccaa ctgcgagcac cacgattcca     480
tggcaatccc tgagcctgca gatcctggtg acagccacca ggaacctcag gatggaccag     540
tcagcttcaa acctggccac cttgctgcag tgatcaatga ggttgaggtg caacaggaac     600
agcaggaaca tctgctggga gatctccaga atgatgtgca ccgggtggca gacagcctgc     660
caggcctgtg gaaagccctg cctggtaacc tcacagctgc agtgatggaa gcaaatcaaa     720
cagggcacga gttccctgat agatccttgg agcaggtgct gctaccccac gtggacacct     780
tcctacaagt gcatttcagc cccatctgga ggagctttaa ccaaagcctg cacagcctta     840
cccaggccat aagaaacctg tctcttgacg tggaggccaa ccgccaggcc atctccagag     900
tccaggacag tgccgtggcc agggctgact tccaggagct tggtgccaaa tttgaggcca     960
aggtccagga gaacactcag agagtgggtc agctgcgaca ggacgtggag gaccgcctgc    1020
acgcccagca ctttaccctg caccgctcga tctcagagct ccaagccgat gtggacacca    1080
aattgaagag gctgcacaag gctcaggagg ccccagggac caatggcagt ctggtgttgg    1140
caacgcctgg ggctggggca aggcctgagc cggacagcct gcaggccagg ctgggccagc    1200
tgcagaggaa cctctcagag ctgcacatga ccacggcccg cagggaggag gagttgcagt    1260
acaccctgga ggacatgagg gccaccctga cccggcacgt ggatgagatc aaggaactgt    1320
actccgaatc ggacgagact ttcgatcaga ttagcaaggt ggagcggcag gtggaggagc    1380
tgcaggtgaa ccacacggcg ctccgtgagc tgcgcgtgat cctgatggag aagtctctga    1440
tcatggagga gaacaaggag gaggtggagc ggcagctcct ggagctcaac ctcacgctgc    1500
agcacctgca gggtggccat gccgacctca tcaagtacgt gaaggactgc aattgccaga    1560
agctctattt agacctggac gtcatccggg agggccagag ggacgccacg cgtgccctgg    1620
aggagaccca ggtgagcctg gacgagcggc ggcagctgga cggctcctcc ctgcaggccc    1680
tgcagaacgc cgtggacgcc gtgtcgctgg ccgtggacgc gcacaaagcg gagggcgagc    1740
gggcgcgggc ggccacgtcg cggctccgga gccaagtgca ggcgctggat gacgaggtgg    1800
gcgcgctgaa ggcggccgcg gccgaggccc gccacgaggt gcgccagctg cacagcgcct    1860
tcgccgccct gctggaggac gcgctgcggc acgaggcggt gctggccgcg ctcttcgggg    1920
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agatccgcgt ggccctgcag gacgccgcta gcgggctgca ggagcaggcg ctcggctggg    2040
acgagctggc cgcccgagtg acggccctgg agcaggcctc ggagcccccg cggccggcag    2100
agcacctgga gcccagccac gacgcgggcc gcgaggaggc cgccaccacc gccctggccg    2160
ggctggcgcg ggagctccag agcctgagca acgacgtcaa gaatgtcggg cggtgctgcg    2220
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cactcttcgc cactcagcgc agcttggagc agcaccagcg gctcttccac agcctctttg    2340
ggaacttcca agggctcatg gaagccaacg tcagcctgga cctggggaag ctgcagacca    2400
tgctgagcag gaaagggaag aagcagcaga aagacctgga agctccccgg aagagggaca    2460
agaaggaagc ggagcctttg gtggacatac gggtcacagg gcctgtgcca ggtgccttgg    2520
gcgcggcgct ctgggaggca ggatcccctg tggccttcta tgccagcttt tcagaaggga    2580
cggctgccct gcagacagtg aagttcaaca ccacatacat caacattggc agcagctact    2640
tccctgaaca tggctacttc cgagcccctg agcgtggtgt ctacctgttt gcagtgagcg    2700
ttgaatttgg cccagggcca ggcaccgggc agctggtgtt tggaggtcac catcggactc    2760
cagtctgtac cactgggcag gggagtggaa gcacagcaac ggtctttgcc atggctgagc    2820
tgcagaaggg tgagcgagta tggtttgagt taacccaggg atcaataaca aagagaagcc    2880
tgtcgggcac tgcatttggg ggcttcctga tgtttaagac ctgaacccca gccccaatct    2940
gatcagacat catggactcg cccagctctc ctcggcctgg ggctctggcc aaggatgggc    3000
tggaggtcat tcagttggtc tgtctcttcc ctggaaacct tctgcaaaga tggtgtggtg    3060
tacgtggctt ccctgtaacc acatggggct tggccatttc tccatgatga gaaggactgg    3120
aatgcttctc cgggcaggac atggtcctag gaagcctgaa ccttggcttg gcatgccttc    3180
```

```
tcagacagca cggcctgggc tccaactctt caccacaccc tgtattctac aacttctttg      3240
gtgttttgct cctcctgtgg ttggaaactt ctgtacaaca ctttaaactt ttctcttgct      3300
tcctcttctc ttctccctta tcgtatgata gaaagacatt cttccccagg aggaatgttt      3360
aaaatggagg caacattttg gccaacattg gaaagcacta gagggcaatg ggattaaacc      3420
aacctgcttg gtctctatta gtcagtaatg aagacgacag cctggccaac caagggaaag      3480
gaaattagta tctttagttt cagtcattcc ttgtaggata tggtttagct gtgcccccac      3540
ctaaaatatc atcttgaatt gtaatcccta taatccccac atcaagggag agatcaggtg      3600
gaggtaattg gatcttgggg gcggttcccc catgctgttc ttgtgatagt tctcacgaga      3660
tctgatgatt ttataagttt gatagttcct cctgtgttca ttctccttcc tgccaccttg      3720
tgaagatgcc ttggttcctc ttcactgtct gccatgattg taagtttcct gaggcctccc      3780
cagccatgtg gaacagtgag tcaattaaac ctctttcctt tataaatt                   3828
```

Homo sapiens heat shock 27kDa protein 1, mRNA (cDNA clone MGC:8509 IMAGE:2822325), complete cds.

```
ccgcctgcta aaaatacccg actggaggag cataaaagcg cagccgagcc cagcgccccg    60
cacttttctg agcagacgtc cagagcagag tcagccagca tgaccgagcg ccgcgtcccc   120
ttctcgctcc tgcggggccc cagctgggac cccttccgcg actggtaccc gcatagccgc   180
ctcttcgacc aggccttcgg gctgccccgg ctgccggagg agtggtcgca gtggttaggc   240
ggcagcagct ggccaggcta cgtgcgcccc ctgccccccg ccgccatcga gagccccgca   300
gtggccgcgc ccgcctacag ccgcgcgctc agccggcaac tcagcagcgg ggtctcggag   360
atccggcaca ctgcggaccg ctggcgcgtg tccctggatg tcaaccactt cgccccggac   420
gagctgacgg tcaagaccaa ggatggcgtg gtggagatca ccggcaagca cgaggagcgg   480
caggacgagc atggctacat ctcccggtgc ttcacgcgga aatacacgct gcccccggt    540
gtggacccca cccaagtttc ctcctccctg tcccctgagg gcacactgac cgtggaggcc   600
cccatgccca agctagccac gcagtccaac gagatcacca tcccagtcac cttcgagtcg   660
cgggcccagc ttgggggccc agaagctgca aaatccgatg agactgccgc caagtaaagc   720
cttagccccgg atgcccaccc ctgctgccgc cactggctgt gcctcccccg ccacctgtgt   780
gttcttttga tacatttatc ttctgttttt ctcaaataaa gttcaaagca ccccccaaaa   840
aaaaaaaaaa aaaaaaaaaa aaaaaaa                                       867
```

Homo sapiens carcinoembryonic antigen (CGM2) mRNA, complete cds.

```
ccatgggttc cccttcagcc tgtccataca gagtgtgcat tccctggcag gggctcctgc      60
tcacagcctc gcttttaacc ttctggaacc tgccaaacag tgcccagacc aatattgatg     120
tcgtgccgtt caatgtcgca gaagggaagg aggtccttct agtagtccat aatgagtccc     180
agaatcttta tggctacaac tggtacaaag gggaaagggt gcatgccaac tatcgaatta     240
taggatatgt aaaaaatata agtcaagaaa atgccccagg gcccgcacac aacggtcgag     300
agacaatata ccccaatgga accctgctga tccagaacgt tacccacaat gacgcaggat     360
tctataccct acacgttata aaagaaaatc ttgtgaatga agaagtaacc agacaattct     420
acgtattctc ggagccaccc aagccctcca tcaccagcaa caacttcaat ccggtggaga     480
acaaagatat tgtggtttta acctgtcaac ctgagactca gaacacaacc tacctgtggt     540
gggtaaacaa tcagagcctc ctggtcagtc ccaggctgct gctctccact gacaacagga     600
ccctcgttct actcagcgcc acaaagaatg acataggacc ctatgaatgt gaaatacaga     660
acccagtggg tgccagccgc agtgacccag tcaccctgaa tgtccgctat gagtcagtac     720
aagcaagttc acctgacctc tcagctggga ccgctgtcag catcatgatt ggagtactgg     780
ctgggatggc tctgatatag cagccttggt g                                    811
```

Homo sapiens keratin 7, mRNA (cDNA clone MGC:3625 IMAGE:3610347), complete cds.

```
ctcctcctcg cccgccgcta ggtccatccc ggcccagcca ccatgtccat ccacttcagc      60
tccccggtat tcacctcgcg ctcagccgcc ttctcgggcc gcggcgccca ggtgcgcctg     120
agctccgctc gccccggcgg ccttggcagc agcagcctct acggcctcgg cgcctcgcgg     180
ccgcgcgtgg ccgtgcgctc tgcctatggg ggcccggtgg gcgccggcat ccgcgaggtc     240
accattaacc agagcctgct ggccccgctg cggctggacg ccgacccctc cctccagcgg     300
gtgcgccagg aggagagcga gcagatcaag accctcaaca acaagtttgc ctccttcatc     360
gacaaggtgc ggtttctgga gcagcagaac aagctgctgg agaccaagtg gacgctgctg     420
caggagcaga agtcggccaa gagcagccgc ctcccagaca tctttgaggc ccagattgct     480
ggccttcggg gtcagcttga ggcactgcag gtggatgggg gccgcctgga ggcggagctg     540
cggagcatgc aggatgtggt ggaggacttc aagaataagt acgaagatga aattaaccgc     600
cgcacagctg ctgagaatga gtttgtggtg ctgaagaagg atgtggatgc tgcctacatg     660
agcaaggtgg agctggaggc caaggtggat gccctgaatg atgagatcaa cttcctcagg     720
accctcaatg agacggagtt gacagagctg cagtcccaga tctccgacac atctgtggtg     780
ctgtccatgg acaacagtcg ctccctggac ctggacggca tcatcgctga ggtcaaggca     840
cagtatgagg agatggccaa atgcagccgg gctgaggctg aagcctggta ccagaccaag     900
tttgagaccc tccaggccca ggctgggaag catggggacg acctccggaa tacccggaat     960
gagatttcag agatgaaccg ggccatccag aggctgcagg ctgagatcga caacatcaag    1020
aaccagcgtg ccaagttgga ggccgccatt gccgaggctg aggagcgtgg ggagctggcg    1080
ctcaaggatg ctcgtgccaa gcaggaggag ctggaagccg ccctgcagcg ggccaagcag    1140
gatatggcac ggcagctgcg tgagtaccag gaactcatga gcgtgaagct ggccctggac    1200
atcgagatcg ccacctaccg caagctgctg gagggcgagg agagccggtt ggctggagat    1260
ggagtgggag ccgtgaatat ctctgtgatg aattccactg gtggcagtag cagtggcggt    1320
ggcattgggc tgaccctcgg gggaaccatg ggcagcaatg ccctgagctt ctccagcagt    1380
gcgggtcctg ggctcctgaa ggcttattcc atccggaccg catccgccag tcgcaggagt    1440
gcccgcgact gagccgcctc ccaccactcc actcctccag ccaccaccca caatcacaag    1500
aagattccca cccctgcctc ccatgcctgg tcccaagaca gtgagacagt ctggaaagtg    1560
atgtcagaat agcttccaat aaagcagcct cattctgagg cctgagtgat ccacgtgaaa    1620
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaa              1668
```

Homo sapiens hxCT mRNA for cystine/glutamate exchanger, complete cds.

```
cctgtgaaca ctatagcgct gagagagaca gtctgaaagc agaggaagac atcgatcagt      60
aacaccaaga gacaccaaag ttgaaagttt tgttttcttt ccctctgttt tatttttccc     120
ccgtgtgtcc ctactatggt cagaaagcct gttgtgtcca ccatctccaa aggaggttac     180
ctgcagggaa atgttaacgg gaggctgcct tccctgggca acaaggagcc acctgggcag     240
gagaaagtgc agctgaagag gaaagtcact ttactgaggg gagtctccat tatcattggc     300
accatcattg gagcaggaat cttcatctct cctaagggcg tgctccagaa cacgggcagc     360
gtgggcatgt ctctgaccat ctggacggtg tgtggggtcc tgtcactatt tggagctttg     420
tcttatgctg aattgggaac aactataaag aaatctggag gtcattacac atatattttg     480
gaagtctttg gtccattacc agcttttgta cgagtctggg tggaactcct cataatacgc     540
cctgcagcta ctgctgtgat atccctggca tttggacgct acattctgga accatttttt     600
attcaatgtg aaatccctga acttgcgatc aagctcatta cagctgtggg cataactgta     660
gtgatggtcc taaatagcat gagtgtcagc tggagcgccc ggatccagat tttcttaacc     720
ttttgcaagc tcacagcaat tctgataatt atagtccctg gagttatgca gctaattaaa     780
ggtcaaacgc agaactttaa agacgccttt tcaggaagag attcaagtat tacgcggttg     840
ccactggctt tttattatgg aatgtatgca tatgctggct ggttttacct caactttgtt     900
actgaagaag tagaaaaccc tgaaaaaacc attccccttg caatatgtat atccatggcc     960
attgtcacca ttggctatgt gctgacaaat gtggcctact ttacgaccat taatgctgag    1020
gagctgctgc tttcaaatgc agtggcagtg accttttctg agcggctact gggaaatttc    1080
tcattagcag ttccgatctt tgttgccctc tcctgctttg gctccatgaa cggtggtgtg    1140
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tccatgattc atgtccgcaa gcacactcct ctaccagctg ttattgtttt gcacccttg     1260
acaatgataa tgctcttctc tggagacctc gacagtcttt tgaatttcct cagttttgcc    1320
aggtggcttt ttattgggct ggcagttgct gggctgattt atcttcgata caaatgccca    1380
gatatgcatc gtcctttcaa ggtgccactg ttcatcccag ctttgttttc cttcacatgc    1440
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atcactctga ctggagtccc tgcgtattat ctctttatta tatgggacaa gaaacccagg    1560
tggtttagaa taatgtcagg gttcctagca ctgatgcctg cacaagcatg tgatatgtga    1620
aataaaatgg attcttctat agctaaatga gttccctctg gggagagttc tggtactgca    1680
atcacaatgc cagatggtgt ttatgggcta tttgtgtaag taagtggtaa gatgctatga    1740
agtaagtgtg tttgttttca tcttatggaa actcttgatg catgtgcttt tgtatggaat    1800
aaatttggt gcaatatgat gtcattcaac tttgcattga attgaatttt ggttgtattt     1860
atatgtatta tacctgtcac gcttctagtt gcttcaacca ttttataacc atttttgtac    1920
atattttact tgaaaatatt ttaaatggaa atttaaataa acatttgata gtttacataa    1980
taaaaaaaaa aaaaaaaaaa                                               2000
```

Homo sapiens eukaryotic translation elongation factor 1 alpha 2, mRNA (cDNA clone MGC:8362 IMAGE:2819899), complete cds.

```
cactgcagcc cccctcgccc tgagccagag caccccgggt cccgccagcc cctcacactc      60
ccagcaaaat gggcaaggag aagacccaca tcaacatcgt ggtcatcggc cacgtggact     120
ccggaaagtc caccaccacg ggccacctca tctacaaatg cggaggtatt gacaaaagga     180
ccattgagaa gttcgagaag gaggcggctg agatggggaa gggatccttc aagtatgcct     240
gggtgctgga caagctgaag gcggagcgtg agcgcggcat caccatcgac atctccctct     300
ggaagttcga gaccaccaag tactacatca ccatcatcga tgcccccggc caccgcgact     360
tcatcaagaa catgatcacg ggtacatccc aggcggactg cgcagtgctg atcgtggcgg     420
cgggcgtggg cgagttcgag gcgggcatct ccaagaatgg gcagacgcgg gagcatgccc     480
tgctggccta cacgctgggt gtgaagcagc tcatcgtggg cgtgaacaaa atggactcca     540
cagagccggc ctacagcgag aagcgctacg acgagatcgt caaggaagtc agcgcctaca     600
tcaagaagat cggctacaac ccggccaccg tgcctttgt gcccatctcc ggctggcacg     660
gtgacaacat gctggagccc tcccccaaca tgccgtggtt caagggctgg aaggtggagc     720
gtaaggaggg caacgcaagc ggcgtgtccc tgctggaggc cctggacacc atcctgcccc     780
ccacgcgccc cacggacaag cccctgcgcc tgccgctgca ggacgtgtac aagattggcg     840
gcattggcac ggtgcccgtg ggccgggtgg agaccggcat cctgcggccg ggcatggtgg     900
tgacctttgc gccagtgaac atcaccactg aggtgaagtc agtggagatg caccacgagg     960
ctctgagcga agctctgccc ggcgacaacg tcggcttcaa tgtgaagaac gtgtcggtga    1020
aggacatccg gcggggcaac gtgtgtgggg acagcaagtc tgacccgccg caggaggctg    1080
ctcagttcac ctcccaggtc atcatcctga accacccggg gcagattagc gccggctact    1140
ccccggtcat cgactgccac acagcccaca tcgcctgcaa gtttgcggag ctgaaggaga    1200
agattgaccg gcgctctggc aagaagctgg aggacaaccc caagtccctg aagtctggag    1260
acgcggccat cgtggagatg gtgccgggaa agcccatgtg tgtggagagc ttctcccagt    1320
acccgcctct cggccgcttc gccgtgcgcg acatgaggca gacggtggcc gtaggcgtca    1380
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cgcagaaggc gggcaagtga agcgcgggcg cccgcggcgc gaccctcccc ggcggcgccg    1500
cgctccgaac cccggcccgg cccccgcccc gcccccgccc cgcgcgccgc tccggcgccc    1560
cgcacccccg ccaggcgcat gtctgcacct ccgcttgcca gaggccctcg gtcagcgact    1620
ggatgctcgc catcaaggtc cagtggaagt tcttcaagag gaaaggcgcc cccgccccag    1680
gcttccgcgc ccagcgctcg ccacgctcag tgcccgtttt accaataaac tgagcgaccc    1740
caaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa a                        1781
```

Homo sapiens cDNA clone:HEMBA1000726, 3' end, expressed in whole embryo mainly head.

```
gagacggagt ctcgctcttg tcacccaggt tggagtgcag tggcacaatc tcggctcact    60
gcaacctcca cctcctgtgt ttaaacgatt ctcctgcttc agcctcctga gtagctggaa   120
ttacaggccc tgccaccacc cccccgctaa tttttgtcta ttttttttt ttagtagaga   180
cggggtttca ccatgttggc tagtctggtc ttgaactcct gactgacctc agacgaacca   240
cccgcctcag actcccaaag tgtcaggatt acaggcgtta gccaccatac ctggcctgct   300
cccagttttt acaagatgtt aattcccaat aatctgagag caatgtgtta atatgaatat   360
taattcttct aaatgaatat tcatccttat ttcctacttg tataggtgga tgaataaaga   420
tccaatagta taatagaaag actattagta agaatgccag aaggncagtc tcatgcacct   480
ggtgaaataa accaaccaac caacctgaan tctaaagctt gngtggcaag taccactgtg   540
gggaagtgta gaattaacnc tcttttccta agggtc                             576
```

Homo sapiens MDG1 mRNA, complete cds.

```
tagctggctg agaggggact gggcgccggc ggggaaggag gagcgctagg tcggtgtacg      60
accgagatta gggtgcgtgc cagctccggg aggccgcggt gaggggccgg gcccaagctg     120
ccgacccgag ccgatcgtca gggtcgccag cgcctcagct ctgtggagga gcagcagtag     180
tcggagggtg caggatatta gaaatggcta ctccccagtc aattttcatc tttgcaatct     240
gcattttaat gataacagaa ttaattctgg cctcaaaaag ctactatgat atcttaggtg     300
tgccaaaatc ggcatcagag cgccaaatca agaaggcctt tcacaagttg gccatgaagt     360
accaccctga caaaaataag agcccggatg ctgaagcaaa attcagagag attgcagaag     420
catatgaaac actctcagat gctaatagac gaaaagagta tgatacactt ggacacagtg     480
cttttactag tggtaaagga caaagaggta gtggaagttc ttttgagcag tcatttaact     540
tcaattttga tgacttattt aaagactttg gctttttgg tcaaaaccaa aacactggat     600
ccaagaagcg ttttgaaaat catttccaga cacgccagga tggtggttcc agtagacaaa     660
ggcatcattt ccaagaattt tcttttggag gtggattatt tgatgacatg tttgaagata     720
tggagaaaat gttttctttt agtggttttg actctaccaa tcagcataca gtacagactg     780
aaaatagatt tcatggatct agcaagcact gcaggactgt cactcaacga agaggaaata     840
tggttactac atacactgac tgttcaggac agtagttctt attctattct cactaaatcc     900
aactggttga ctcttcctca ttatctttga tgctaaacaa ttttctgtga actattttga     960
caagtgcatg atttcacttt aaacaatttg atatagctat taaatatatt taagggtttt    1020
ttttttttg acaaattcaa cattcaacga gtagacaaaa tgctaattat ttccctgatt    1080
aggaaagttt ctttaaaaaa cacgtaattt tgcctagtgc tttttctcta cctgcccttg    1140
ggctcactaa tatcaccagt attattacca agaaaatatt gagtttacct gattaaactt    1200
taaaagttaa ttgtagattt aaattgtgtg aacctaatga tttttgcagt gaaaccttta    1260
ctaattcaaa gttgcatgtt ctatgacatc tgtgacttgc gttgcagagt gtacatgaaa    1320
ctgtataatt gagtcattca gtaaaggaga acagtatctt ggttaattgc tactgaaagg    1380
ttgagaaagg aatggtttga tatttaccac agcgctgtgc ctttctacag tagaactggg    1440
gtaaaggaaa tggttttatt gcccatagtc atttaggctg gaaaaaagtt gaaaacttaa    1500
cgaaatattg ccaagagatt gttatgtgtt tggttccagc ctaaaaatga ttttgtagtg    1560
ttgaaatcat agctacttac atagcttttt catatttctt tcttagttgt tggcactctt    1620
aggtcttagt atggatttat gtgtttgtgt gtgtgtagtt tatcctctct ctcatcttta    1680
tctagagatt gactgatacc tcattctgtt tgtaaaacca gccagtaatt tctgtgcaac    1740
cttactatgt gcaatatttt taaatcctga gaaatgtgtg cttttgtttt cggatagact    1800
tatttcttta gttctgcact tttccacatt atactccata tgagtattaa tcctatggat    1860
acatattaaa acaagtgtct catacaacat tgtatgtgag agaaatataa atatttacaa    1920
cctgaaaaa                                                           1929
```

Homo sapiens prostate stem cell antigen (PSCA) mRNA, complete cds.

```
agggagaggc agtgaccatg aaggctgtgc tgcttgccct gttgatggca ggcttggccc      60
tgcagccagg cactgccctg ctgtgctact cctgcaaagc ccaggtgagc aacgaggact     120
gcctgcaggt ggagaactgc acccagctgg gggagcagtg ctggaccgcg cgcatccgcg     180
cagttggcct cctgaccgtc atcagcaaag gctgcagctt gaactgcgtg gatgactcac     240
aggactacta cgtgggcaag aagaacatca cgtgctgtga caccgacttg tgcaacgcca     300
gcggggccca tgccctgcag ccggctgccg ccatccttgc gctgctccct gcactcggcc     360
tgctgctctg gggacccggc cagctatagg ctctgggggg ccccgctgca gcccacactg     420
ggtgtggtgc cccaggcctt tgtgccactc ctcacagaac ctggcccagt gggagcctgt     480
cctggttcct gaggcacatc ctaacgcaag tttgaccatg tatgtttgca ccccttttcc     540
ccnaaccctg accttcccat gggccttttc caggattccn accnggcaga tcagttttag     600
tganacanat ccgcntgcag atggcccctc caaccntttn tgttgntgtt tccatggccc     660
agcattttcc acccttaacc ctgtgttcag gcacttnttc ccccaggaag ccttccctgc     720
ccaccccatt tatgaattga gccaggtttg gtccgtggtg tcccccgcac ccagcagggg     780
acaggcaatc aggagggccc agtaaaggct gagatgaagt ggactgagta gaactggagg     840
acaagagttg acgtgagttc ctgggagttt ccagagatgg ggcctggagg cctggaggaa     900
ggggccaggc ctcacatttg tggggntccc gaatggcagc ctgagcacag cgtaggccct     960
taataaacac ctgttggata agccaaaaaa                                      990
```

Human arginine-rich protein (ARP) gene, complete cds.

```
cttcggtcct gctgtagtgc cttctgcgcc aggcccggtt caatcagcgg ccacaactgt    60
ctagggctca gacaccacca gccaatgagg gagggcacgt ggagccgcgt ctgggctcgc   120
ggctcctgac caatggggaa gtggcatgtg ggagggcgcc ggggttcccc ccgccaatgg   180
ggagctacgg cgcgcggccg ggacttggag gcggtgcggc gcggcgggtg cggttcagtc   240
ggtcggcggc ggcagcggag gaggaggagg aggaggagga tgaggaggat gaggaggatg   300
tgggccacgc aggggctggc ggtgcgcgtg gctctgagcg tgctgccggg cagccgggcg   360
ctgcggccgg gcgactgcga agtttgtatt tcttatctgg gaagatttta ccaggacctc   420
aaagacagag atgtcacatt ctcaccagcc actattgaaa acgaacttat aaagttctgc   480
cgggaagcaa gaggcaaaga gaatcggttg tgctactata tcggggccac agatgatgca   540
gccaccaaaa tcatcaatga ggtatcaaag cctctggccc accacatccc tgtggagaag   600
atctgtgaga agcttaagaa gaaggacagc cagatatgtg agcttaagta tgacaagcag   660
atcgacctga gcacagtgga cctgaagaag ctccgagtta aagagctgaa gaagattctg   720
gatgactggg gggagacatg caaaggctgt gcagaaaagt ctgactacat ccggaagata   780
aatgaactga tgcctaaata tgcccccaag gcagccagtg caccgaccga tttgtagtct   840
gctcaatctc tgttgcacct gagggggaaa aaacagttca actgcttact cccaaaacag   900
ccttttgta atttattttt taagtgggct cctgacaata ctgtatcaga tgtgaagcct   960
ggagctttcc tgatgatgct ggccctacag tacccccatg aggggattcc cttccttctg  1020
ttgctggtgt actctaggac ttcaaagtgt gtctgggatt tttttattaa agaaaaaaaa  1080
tttctagctg tcaaaaaaaa aaa                                         1103
```

Homo sapiens interleukin 11 receptor, alpha, transcript variant 1, mRNA (cDNA clone MGC:2146 IMAGE:3502059), complete cds.

```
ggggggctgta gctggtgaga ggaagtccta gaggctatgg acactctgct gctgggatca      60
ccgagatgag cagcagctgc tcagggctga gcagggtcct ggtggccgtg gctacagccc     120
tggtgtctgc ctcctccccc tgcccccagg cctggggccc cccaggggtc cagtatgggc     180
agccaggcag gtccgtgaag ctgtgttgtc ctggagtgac tgccggggac ccagtgtcct     240
ggtttcggga tggggagcca aagctgctcc agggacctga ctctgggcta gggcatgaac     300
tggtcctggc ccaggcagac agcactgatg agggcaccta catctgccag accctggatg     360
gtgcacttgg gggcacagtg accctgcagc tgggctaccc tccagcccgc cctgttgtct     420
cctgccaagc agccgactat gagaacttct cttgcacttg gagtcccagc cagatcagcg     480
gtttacccac ccgctacctc acctcctaca ggaagaagac agtcctagga gctgatagcc     540
agaggaggag tccatccaca gggccctggc catgcccaca ggatccccta ggggctgccc     600
gctgtgttgt ccacggggct gagttctgga gccagtaccg gattaatgtg actgaggtga     660
acccactggg tgccagcaca cgcctgctgg atgtgagctt gcagagcatc ttgcgccctg     720
acccacccca gggcctgcgg gtagagtcag taccaggtta cccccgacgc ctgcgagcca     780
gctggacata ccctgcctcc tggccgtgcc agccccactt cctgctcaag ttccgtttgc     840
agtaccgtcc ggcgcagcat ccagcctggt ccacggtgga gccagctgga ctggaggagg     900
tgatcacaga tgctgtggct gggctgcccc atgctgtacg agtcagtgcc cgggactttc     960
tagatgctgg cacctggagc acctggagcc cggaggcctg gggaactccg agcactggga    1020
ccataccaaa ggagatacca gcatggggcc agctacacac gcagccagag gtggagcctc    1080
aggtggacag ccctgctcct ccaaggccct ccctccaacc acaccctcgg ctacttgatc    1140
acagggactc tgtggagcag gtagctgtgc tggcgtcttt gggaatcctt tctttcctgg    1200
gactggtggc tggggccctg gcactggggc tctggctgag gctgagacgg ggtgggaagg    1260
atggatcccc aaagcctggg ttcttggcct cagtgattcc agtggacagg cgtccaggag    1320
ctccaaacct gtagaggacc caggagggct tcggcagatt ccacctataa ttctgtcttg    1380
ctggtgtgga tagaaaccag gcaggacagt agatccctat ggttggatct cagctggaag    1440
ttctgtttgg agcccatttc tgtgagaccc tgtatttcaa atttgcagct gaaaggtgct    1500
tgtacctctg atttcacccc agagttggag ttctgctcaa ggaacgtgtg taatgtgtac    1560
atctgtgtcc atgtgtgacc atgtgtctgt gaggcaggga acatgtattc tctgcatgca    1620
tgtatgtagg tgcctgggga gtgtgtgtgg gtccttggct cttggccttt ccccttgcag    1680
gggttgtgca ggtgtgaata aagagaataa ggaagttctt ggaaaaaaaa aaaaaaaaaa    1740
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaacctc ggg                      1783
```

Homo sapiens mRNA; cDNA DKFZp564O2071 (from clone DKFZp564O2071); complete cds

```
ggggggcagca ggccaagggg gaggtgcgag cgtggacctg ggacgggtct gggcggctct      60
cggtggttgg cacgggttcg cacacccatt caagcggcag gacgcacttg tcttagcagt      120
tctcgctgac cgcgctagct gcggcttcta cgctccggca ctctgagttc atcagcaaac      180
gccctggcgt ctgtcctcac catgcctagc ctttgggacc gcttctcgtc gtcgtccacc      240
tcctcttcgc cctcgtcctt gccccgaact cccaccccag atcggccgcc gcgctcagcc      300
tgggggtcgg cgacccggga ggaggggttt gaccgctcca cgagcctgga gagctcggac      360
tgcgagtccc tggacagcag caacagtggc ttcgggccgg aggaagacac ggcttacctg      420
gatggggtgt cgttgcccga cttcgagctg ctcagtgacc ctgaggatga acacttgtgt      480
gccaacctga tgcagctgct gcaggagagc ctggcccagg cgcggctggg ctctcgacgc      540
cctgcgcgcc tgctgatgcc tagccagttg gtaagccagg tgggcaaaga actactgcgc      600
ctggcctaca gcgagccgtg cggcctgcgg ggggcgctgc tggacgtctg cgtggagcag      660
ggcaagagct gccacagcgt gggccagctg gcactcgacc ccagcctggt gcccaccttc      720
cagctgaccc tcgtgctgcg cctggactca cgactctggc ccaagatcca ggggctgttt      780
agctccgcca actctccctt cctccctggc ttcagccagt ccctgacgct gagcactggc      840
ttccgagtca tcaagaagaa gctgtacagc tcggaacagc tgcccattga ggagtgttga      900
acttcaacct gaggggggccg acagtgccct ccaagacaga gacgactgaa cttttggggt      960
ggagactaga ggcaggagct gagggactga ttccagtggt tggaaaactg aggcagccac     1020
ctaaagtgga ggtgggggaa tagtgtttcc caggaagctc attgagttgt gtgcgggtgg     1080
ctgtgcattg gggacacata cccctcagta ctgtagcatg aaacaaaggc ttaggggcca     1140
```

```
acaaggcttc cagctggatg tgtgtgtagc atgtacctta ttatttttgt tactgacagt      1200
taacagtggt gtgacatcca gagagcagct gggctgctcc cgccccagcc tggcccaggg      1260
tgaaggaaga ggcacgtgct cctcagagca gccggaggga agggggaggt cggaggtcgt      1320
ggaggtggtt tgtgtatctt actggtctga agggaccaag tgtgtttgtt gtttgttttg      1380
tatcttgttt ttctgatcgg agcatcacta ctgacctgtt gtaggcagct atcttacaga      1440
cgcatgaatg taagagtagg aaggggtggg tgtcagggat cacttgggat ctttgacact      1500
tgaaaaatta cacctggcag ctgcgtttaa gccttccccc atcgtgtact gcagagttga      1560
gctggcaggg gaggggctga gagggtgggg gctggaaccc cttcccggga ggagtgccat      1620
ctgggtcttc catctagaac tgtttacatg aagataagat actcactgtt catgaataca      1680
cttgatgttc aagtattaag acctatgcaa tatttttac ttttctaata aacatgtttg      1740
ttaaaacaaa aaaaaaaaaa aaaaaaaa
```

Homo sapiens collagen alpha 3 type IX (COL9A3) mRNA, complete cds.

```
atggccgggc cgcgcgcgtg cgcgccgctc ctgctcctgc tcctcctcgg gcagcttctg      60
gcggccgccg gggcgcagag agtgggactc cccggccccc ccggcccccc agggcgccct     120
gggaagcccg gccaggacgg cattgacgga gaagctggtc ctccaggtct gcctggtccc     180
ccgggaccaa agggggcccc aggaaagccg gggaaaccag gagaggctgg gctgccggga     240
ctgccgggtg tggatggtct gactggacga gatggacccc ctggacccaa gggtgccccc     300
ggggaacggg gaagtctggg acccccgggg ccgcccgggc tgggggggcaa aggcctcccc     360
ggaccccccg gagaggcagg agtgagcggc cccccaggtg ggatcggcct ccgcggcccc     420
ccgggacctc ctggactccc cggcctccct ggtcccccag gacctcccgg acccccctgga     480
cacccaggag tcctccctga aggcgctact gaccttcagt gcccaagtat ctgcccgcca     540
ggtcccccag ggcccccctgg aatgccaggg ttcaagggac ccactggcta caaaggcgag     600
caggggggaag tcggcaagga cggcgagaag ggtgaccctg gcccccctgg gcccgccggc     660
ctcccgggca gcgtggggct gcagggcccc cggggattac gaggactgcc agggccactc     720
gggcccccctg gggaccgggg tcccattggg ttccgagggc cgcctgggat cccaggagcg     780
cctgggaaag cgggtgaccg aggcgagagg ggcccagaag ggttccgcgg ccccaagggt     840
gacctcggca gacctggtcc caagggaacc cccggagtgg ccgggccaag cggagagccg     900
ggcatgccag gcaaggacgg ccagaatggc gtgccaggac tcgatggcca gaagggagag     960
gctggtcgca acggtgctcc gggagaagaag ggccccaacg ggctgccggg cctccctgga    1020
cgagcggggt ccaaaggcga gaagggagaa cggggcagag ctggggagct gggtgaggcc    1080
ggcccctctg gagagccagg cgtccctgga gatgctggca tgcctgggga gcgcggtgag    1140
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cagggtattg caggttccga cggtcttcct ggggataaag gagaactggg tcccagcggc    1380
ctggtcggac ccaaaggaga gtctggcagt cgaggggagc tgggccccaa aggcacccag    1440
ggtcccaacg gcaccagcgg tgttcagggt gtccccgggc cccccggtcc tctgggcctg    1500
cagggcgtcc cgggtgttcc tggcatcacg gggaagccgg gagttccggg gaaggaggcc    1560
agcgagcagc gcatcaggga gctgtgtggg gggatgatca gcgaacaaat tgcacagtta    1620
gccgcgcacc taaggaagcc tttggcaccc gggtccattg gtcggcccgg tccagctggc    1680
ccccctgggc ccccaggacc cccaggctcc attggtcacc ctggcgctcg aggacccccc    1740
ggataccgcg gtcccactgg ggagctggga gaccccgggc ccagaggaaa ccagggtgac    1800
agaggagaca aaggcgcggc aggagcaggg ctggacgggc ctgaaggaga ccaggggccc    1860
caaggacccc aaggcgtgcc cggcaccagc aaggacggcc aggacggtgc tcccggcgag    1920
cctgggcctc ccggagatcc tgggcttcca ggtgccattg gggcccaggg gacaccgggg    1980
atctgcgaca cctcagcctg ccaaggagcc gtgttaggag gggtcgggga gaaatcaggc    2040
tctcgaagct cataaaattc aacgtgagga agcaagtgac aaggacgccc gaagcacagt    2100
ggacggtcat gaaggagcgg gggtgtggca ggcgggtgac gtccaggaga gggagcgccc    2160
ctggctgccc ctcggccgcc gactggacgc gtgggccttg ccagcgagca ccctcattgg    2220
gctgtcgcct gacagcatac ctcaaaaggc cctagctaat aaacctgtaa gcccagcatt    2280
tgagagaagg tagggtgtgt atatataaaa ggttgtgtac aactccacga ggtgaaaaat    2340
attcagtaac ttgtttgcat agcatttgtg taaagactat gatctcatcc caataaaatg    2400
atatattaaa tcttcagatt aatgactggc tacagagtaa caaaaaataa acaatttaat    2460
gtacagtaaa ttctctccca                                               2480
```

Homo sapiens cDNA FLJ20113 fis, clone COL05437.

```
aattggcaac ccggaagcgg tcggtagtgc ggcgctgttt aaagatggcg gcggaggaac      60
ctcagcagca gaagcaggag ccgctgggca gcgactccga aggtgttaac tgtctggcct     120
atgatgaagc catcatggct cagcaggacc gaattcagca agagattgct gtgcagaacc     180
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gcacctccga ctaccttgtg gtctacctgc ggctgctcac ctcgggctac ctgcagcgcg     600
agagcaagtt cttcgagcac ttcatcgagg gtggacggac tgtcaaggag ttctgccagc     660
aggaggtgga gcccatgtgc aaggagagcg accacatcca catcattgcg ctggcccagg     720
ccctcagcgt gtccatccag gtggagtaca tggaccgcgg cgagggcggc accaccaatc     780
cgcacatctt ccctgagggc tccgagccca aggtctacct tctctaccgg cctggacact     840
acgatatcct ctacaaatag ggctggctcc agcccgctgc tgccctgctg ccccccctctg     900
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ttcttcctgt cacatgaccc ccccccatgt tttattaaag ggggtgctgg tggtgagccg    1020
tgtgtgcgtg tccctgctct gctgcccgcc tggctgctct gtctgctgcc ccctcccccc    1080
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gaggggccag gcctcttgga ggcccctcct gcttcgttgg gttctgcttc cttcccttct    1200
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ctgtgcctgc cttgcacccc ctctgcttgg gccacggtgt ctctgcattg cctgcctttt    1620
tgccttcacc tcttttcttc cccgcccccc gcacattcgg ggtctcagcc cccaggctgt    1680
gagctccttg ggggcaggcc ctcaataaat gtgaactgct gctgccgcca aaaaaaaaaa    1740
aaaaaaa                                                             1747
```

01763146F1 NIH_MGC_20 Homo sapiens cDNA clone IMAGE:4026010 5', mRNA sequence.

```
aattgatatt ttttgctgct tcctcggccc aggagaaagc atgtcaggac agagctgttg      60
gattggcttt gatagaggaa tggggatgat gtaagtttac agtattcctg gggtttaatt     120
gttgtgcagt ttcatagatg ggtcaggagg tggacaagtg gggccagaga tgatggcagt     180
ccagcagcaa ctccctgtgc tcccttctct ttgggcagag attctatttt tgacatttgc     240
acaagacagg tagggaaagg ggacttgtgg tagtggacca tacctgggga ccaaaagaga     300
cccactgtaa ttgatgcatt gtggcccctg atcttccctg tctcacactt cttttctccc     360
atcccggttg caatctcact cagacatcac agtaccaccc caggggtggc agtagacaac     420
aacccagaaa tttagacagg gatctcttac ctttggaaaa taggggttag gcatgaaggt     480
ggttgtgatt aagaagatgg tttgttatta aatagcatta aactggaatt ga              532
```

Human plasma serine protease (protein C) inhibitor mRNA, complete cds.

```
aattccggca gagctccgtt tcctcataga acaaagaaca tccaccatgc agctcttcct      60
cctcttgtgc ctggtgcttc tcagccctca gggggcctcc cttcaccgcc accacccccg     120
ggagatgaag aagagagtcg aggacctcca tgtaggtgcc acggtggccc ccagcagcag     180
aagggacttt acctttgacc tctacagggc cttggcttcc gctgccccca gccagaacat     240
cttcttctcc cctgtgagca tctccatgag cctggccatg ctctccctgg gggctgggtc     300
cagcacaaag atgcagatcc tggagggcct gggcctcaac ctccagaaaa gctcagagaa     360
ggagctgcac agaggctttc agcagctcct tcaggaactc aaccagccca gagatggctt     420
ccagctgagc ctcggcaatg ccctttttcac cgacctggtg gtagacctgc aggacacctt     480
cgtaagtgcc atgaagacgc tgtacctggc agacactttc cccaccaact ttagggactc     540
tgcaggggcc atgaagcaga tcaatgatta tgtggcaaag caaacgaagg gcaagattgt     600
ggacttgctt aagaacctcg atagcaatgc ggtcgtgatc atggtgaatt acatcttctt     660
taaagctaag tgggagacaa gcttcaacca caaaggcacc caagagcaag acttctacgt     720
gacctcggag actgtggtgc gggtacccat gatgagccgc gaggatcagt atcactacct     780
cctggaccgg aacctctcct gcagggtggt gggggtcccc taccaaggca atgccacggc     840
tttgttcatt ctccccagtg agggaaagat gcagcaggtg gagaatggac tgagtgagaa     900
aacgctgagg aagtggctta agatgttcaa aaagaggcag ctcgagcttt accttcccaa     960
attctccatt gagggctcct atcagctgga gaaagtcctc cccagtctgg ggatcagtaa    1020
cgtcttcacc tcccatgctg atctgtcccg catcagcaac cactcaaata tccaggtgtc    1080
tgagatggtg cacaaagctg tggtggaggt ggacgagtcg ggaaccagag cagcggcagc    1140
cacggggaca atcttcactt tcaggtcggc ccgcctgaac tctcagaggc tagtgttcaa    1200
caggcccttt ctgatgttca ttgtggataa caacatcctc ttccttggca aagtgaaccg    1260
cccctgaggt ggggcttctc ctgaaatcta caggcctcag ggtgggagat gaaggggggct   1320
atgctatggc ccatctgtat gctggtagct agtgatttac gacaggttta gttgactaga    1380
tgaggcatta caaataatat tactctatgg atgattgctt ccacccacac gactgcaaca    1440
tacaggtgcc ttggggaaat gtggagaaca ttcaatctgc cgtcactatt catcaatgaa    1500
gattagcact gagatccaga gaggctggat ggacttgctc aagttcacca gcatggtagt    1560
ggcaaagaga ggtccagagt cctggccctt gatgccgagc tcatgccaca aagctcagta    1620
ggagggatgt tccagtggat gagggccagc caggaagcac aggtccaagg ctggtcccac    1680
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ctgaaatggg gctactgttt cagtcctaac gtgctgtgtg acattgggac aacactttcc    1800
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ctcctgaaat catatagaaa ggctggggtg ggccctgtca ttcgtggttg atttcaatac    1920
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ttaatgattg attatatcat tttgtggata tagttataat ctgatgggcc tggctgggag    2040
tggaagaagg gaagcctttt gcaaatagta gagtgtcagt tgcaggtgcc aatgactaac    2100
tttttg                                                               2106
```

Homo sapiens DKFZP586A0522 protein, mRNA (cDNA clone MGC:5320 IMAGE:2900478), complete cds.

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Homo sapiens calcium binding protein 1 (calbrain), mRNA (cDNA clone

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Homo sapiens TNNT1 gene, exons 1-11 (and joined CDS)

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gctgcaccag tgacctgctt tcgtctgagt agcaccccta cctgcaagga gattgggcaa 16680
gtagatttt 16689

Homo sapiens negative growth-regulatory protein MyD118 (MYD118) mRNA, complete cds.

```
ccgcatccac tgtggattat aattgcaaca tgacgctgga agagctcgtg gcgtgcgaca      60
acgcggcgca gaagatgcag acggtgaccg ccgcggtgga ggagcttttg gtggccgctc     120
agcgccagga tcgcctcaca gtgggggtgt acgagtcggc caagttgatg aatgtggacc     180
cagacagcgt ggtcctctgc ctcttggcca ttgacgagga ggaggaggat gacatcgccc     240
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gggtgtcggg caatgcgcgc ctggcgcagc tcctgggaga gccggccgag acccagggca     360
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aacccccca aaacaaccca acccacgagg accatcgggg gcaggtcgtt ggagactgaa      660
gagaaagaga gagaggagaa gggagtgagg ggccgctgcc gccttcccca tcacggaggg     720
tccagactgt ccactcgggg gtggagtgag actgactgca agccccaccc tccttgagac     780
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aactcccagt ttgcgaatta ataagagaca atctattttg ttacttgcac ttgttattcg     960
aaccactgag agcgagatgg gaagcataga tatctatatt tttatttcta ctatgagggc    1020
cttgtaataa atttctaaag cctcaaaaaa                                     1050
```

yz12f12.s1 Soares_multiple_sclerosis_2NbHMSP Homo sapiens cDNA clone IMAGE:282863 3', mRNA sequence.

```
tggagaagga aggacagttt ttcttcctcc aagagtacca atttgaccac tcccactaac      60
ctcactcagc aaacaaaaca ggatgtagac ctggtttgct aaggagtttt aatgagttct     120
gtttcctgaa attaacagtg attagttaca ccaagcaaga gaagatataa tgtctcgctt     180
tcacatttgc aaagaatact atggctaacc ctcatcccct actgcgcatg caacacagcg     240
tcggccctcc tgataccctc agctcttcac aaacgtggcg ttcatacagc ttgctcagct     300
tgtcccagaa ggtccatttg gttcccaaag cacactcaag gttttgtgtt tgctttcatt     360
ttctaagccc ctgaatttgc aagtaaagaa tcactgacta acagaatttt ggcacaatga     420
ctggtttctt tccctcaatg aagatgncca ggtctgggtg tgaggagcac ctggcctcaa     480
ctggctggtc cacgctggcc ttcagcatgg ccaataagct ctttcctggc tcgcntttga     540
gaatgatctg tgctgggana cctccctaan ggatgaagg                            579
```

Homo sapiens synaptogyrin 3, mRNA (cDNA clone MGC:20003 IMAGE:4334996), complete cds.

```
cagcggcctc gggcggggcc ggccggacgg acaggcggac agaaggcgcc aggggcgcgc        60
gtcccgcccg ggccggccat ggagggcgcc tccttcggcg cgggccgcgc aggggccgcc       120
ctggaccccg tgagctttgc gcggcggccc cagaccctgc tccgggtcgc gtcctgggtg       180
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gagaccctgg acaccagccc caaagggtac caggtgcccg cctactagcg gctggcaggc       780
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ttacattgta gcctagacca attctgtgtg gatatttaag tgaacatgtt tacaattttt      1860
gtatatatca ctctctccct ctcctgaaag accagagatt gtgtattttc agtgtcccat      1920
gttccgactg caccttcttt acaataaaga ctgtaactga gctgactgtg aaaaaaaaaa      1980
aaaaaaaaaa aaaaaa                                                      1996
```

Human 14 kd lectin mRNA, complete cds.

```
cttctgacag ctggtgcgcc tgcccgggaa catcctcctg gactcaatca tggcttgtgg      60
tctggtcgcc agcaacctga atctcaaacc tggagagtgc cttcgagtgc gaggcgaggt     120
ggctcctgac gctaagagct tcgtgctgaa cctgggcaaa gacagcaaca acctgtgcct     180
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tgttgcagag gtgtgcatca ccttcgacca ggccaacctg accgtcaagc tgccagatgg     360
atacgaattc aagttcccca accgcctcaa cctggaggcc atcaactaca tggcagctga     420
cggtgacttc aagatcaaat gtgtggcctt tgactgaaat cagccagccc atggccccca     480
ataaaggcag ctgcctctgc tcccctg                                        507
```

Homo sapiens monocarboxylate transporter 2 (MCT2) mRNA, complete cds.

```
cgggcgccca ccctgcgcca gagaccagat aaagatcaat cttaagatgt gatactttcc      60
tgtgaaacct gaaacaaggt gatctgggga accaaagact ctgggactct tggtgccaac     120
agagttactc tgttacttga atttccacta gaggagcaga aatgccacca atgccaagtg     180
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atggattggc catggcagga aatcctgttt tcttaagttc attggctcct ttcaatcagt     660
acctttttaa tacttttggc tggaaaggaa gcttcctgat tttgggaagt ctacttttga     720
atgcctgtgt ggctggttcc ctcatgagac cccttggacc caatcaaacc acttctaagt     780
ctaaaaataa gactggcaaa acagaagatg attcaagccc aaagaaaatc aaaacgaaga     840
aatcaacttg ggaaaaagtt aataagtatt tagatttctc ccttttttaag catagaggat     900
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aattttaaat tagtttttaa aaacttactt atttgggtag ttaaattttg agattatgca    1800
tagaaagaat ccatgctata ggtttatttc catacctgac tctgggtgtg gtggttaaaa    1860
tactaatttt aaagtcttcc agtgactttc ggtcttggtt atatgga                  1907
```

H.sapiens mRNA for gonadotropin-releasing hormone receptor, splice variant.

```
atggcaaaca gtgcctctcc tgaacagaat caaaatcact gttcagccat caacaacagc      60
atcccactga tgcagggcaa cctccccact ctgaccttgt ctggaaagat ccgagtgacg     120
gttactttct tccttttttct gctctctgcg acctttaatg cttctttctt gttgaaactt     180
cagaagtgga cacagaagaa agagaaaggg aaaaagctct caagaatgaa gctgctctta     240
aaacatctga ccttagccaa cctgttggag actctgattg tcatgccact ggatgggatg     300
tggaacatta cagtccaatg gtatgctgga gagttactct gcaaagttct cagttatcta     360
aagcttttct ccatgtatgc cccagccttc atgatggtgg tgatcagcct ggaccgctcc     420
ctggctatca cgaggcccct agctttgaaa agcaacagca aagtcggaca gtccatggtt     480
ggcctggcct ggatcctcag tagtgtcttt gcaggaccac agctgcctct tcatcatccc     540
tcttttcatc atgctgatct gcaatgcaaa aatcatcttc accctgacac gggtccttca     600
tcaggacccc cacgaactac aactgaatca gtccaagaac aatataccaa gagcacggct     660
gaagactcta aaaatgacgg ttgcatttgc cacttcattt actgtctgct ggactcccta     720
ctatgtccta ggaatttggt attggtttga tcctgaaatg ttaaacaggt tgtcagaccc     780
agtaaatcac ttcttctttc tctttgcctt tttaaaccca tgctttgatc cacttatcta     840
tggatatttt tctctgtga                                                 859
```

Homo sapiens midline 1 (MID1) mRNA, complete cds.

```
ctttttttgg ccgggccgca tgaatccggc cagcccaccc tgcttgaagg acctacaggt      60
ttgtctcttc cagatcagaa ctgaggaaca aaaaccccca tcctgggaaa aatggggaag     120
ctgatttcgc cgggttgctt ttgtcttgcg ggctcctgtc gggttcggtg tttccgctct     180
gaagactgcg acgcgggctc cgatgcagct cgctccctgc cggatgggtc atgggattct     240
aaacatgagg cagatagctg atcagcttcc ttgggttttg ctgatgacac aagagagctt     300
tgcctgaaga tggaaacact ggagtcagaa ctgacctgcc ctatttgtct ggagctcttt     360
gaggaccctc ttctactgcc ctgcgcacac agcctctgct tcaactgcgc ccaccgcatc     420
ctagtatcac actgtgccac caacgagtct gtggagtcca tcaccgcctt ccagtgcccc     480
acctgccggc atgtcatcac cctcagccag cgaggtctag acgggctcaa gcgcaacgtc     540
accctacaga acatcatcga caggttccag aaagcatcag tgagcgggcc caactctccc     600
agcgagaccc gtcgggagcg ggcctttgac gccaacacca tgacctccgc cgagaaggtc     660
ctctgccagt tttgtgacca ggatcctgcc caggacgctg tgaagacctg tgtcacttgt     720
gaagtatcct actgtgacga gtgcctgaaa gccactcacc cgaataagaa gcccctttaca     780
ggccatcgtc tgattgagcc aattccggac tctcacatcc gggggctgat gtgcttggag     840
catgaggatg agaaggtgaa tatgtactgt gtgaccgatg accagttaat ctgtgccttg     900
tgtaaactgg ttgggcggca ccgcgatcat caggtggcag ctttgagtga gcgctatgac     960
aaattgaagc aaaacttaga gagtaacctc accaacctta ttaagaggaa cacagaactg    1020
gagacccttt tggctaaact catccaaacc tgtcaacatg ttgaagtcaa tgcatcacgt    1080
caagaagcca aattgacaga ggagtgtgat cttctcattg agatcattca gcaaagacga    1140
cagattattg gaaccaagat caaagaaggg aaggtgatga ggcttcgcaa actggctcag    1200
cagattgcaa actgcaaaca gtgcattgag cggtcagcat cactcatctc ccaagcggaa    1260
cactctctga aggagaatga tcatgcgcgt ttcctacaga ctgctaagaa tatcaccgag    1320
agagtctcca tggcaactgc atcctcccag gttctaattc ctgaaatcaa cctcaatgac    1380
acatttgaca cctttgcctt agatttttcc cgagagaaga aactgctaga atgtctggat    1440
taccttacag ctcccaaccc tcccacaatt agagaagagc tctgcacagc ttcatatgac    1500
accatcactg tgcattggac ctccgatgat gagttcagcg tggtctccta cgagctccag    1560
tacaccatat tcaccggaca agccaacgtc gttagtctgt gtaattcggc tgatagctgg    1620
atgatagtac ccaacatcaa gcagaaccac tacacggtgc acggtctgca gagcggcacc    1680
aagtacatct tcatggtcaa ggccatcaac caggcgggca gccgcagcag tgagcctggg    1740
aagttgaaga caaacagcca accatttaaa ctggatccca aatctgctca tcgaaaactg    1800
aaggtgtccc atgataactt gacagtagaa cgtgatgagt catcatccaa gaagagtcac    1860
acacctgaac gcttcaccag ccaggggagc tatggagtag ctggaaatgt gtttattgat    1920
agtggccggc attattggga agtggtcata agtggaagca catggtatgc cattggtctt    1980
gcttacaaat cagccccgaa gcatgaatgg attgggaaga actctgcttc ctgggcgctc    2040
tgccgctgca acaataactg ggtggtgaga cacaatagca aggaaatccc cattgagcct    2100
gccccccacc tccggcgcgt gggcatcctg ctggactatg ataacggctc tatcgccttt    2160
tatgatgctt tgaactccat ccacctctac accttcgacg tcgcatttgc gcagcctgtt    2220
tgccccacct tcaccgtgtg gaacaagtgt ctgacgatta tcactgggct ccctatccca    2280
gaccatttgg actgcacaga gcagctgccg tgagcgtctg gccacatgga gctgctttct    2340
ggggaacagt aaggttcagg ccactattta ggggactgag aaagcacagg cttcatgagt    2400
gtaatgaaat ctcaccagaa gtgtcccgaa atcggctcag atagggctca aaacaagaga    2460
ttcctctcct tttactgtgt cttgtattaa gtacgggctt taataatttc tttaattttt    2520
ttgtatttag aggaaaatct atagattatt tataagagaa acataatcag gattacaact    2580
tttaggaatt acttggtttt gcacattaag aggcccataa gtttatcagc tatttacaac    2640
cttcatttca tcacaatctg tgggcttaca aaaaaacaaa aacttttgta gttttgtatg    2700
ttactcatct tcttacctga tatcccatga tgatcccatg gtaggtcttc tcacctcgat    2760
ggtgcataac aggatgtgtt tgaacctagt aggggaggaa acaggctttc ttactctggt    2820
ttaatttgaa gtgttttaat tgtgatgtca aaaagttgta tcagatcaac taaaatggag    2880
agcaagacag agaatgaaaa gagttgattt tggacctcgg accttgccgt ggctaaatct    2940
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attttgccct gcttctctca gggttaaggg ttctggaaga acattaagaa tgagatgcaa    3060
ttgaaaatag tcattttgaa tcctattgat tattcaaaaa ttcaggctga ttgtctttta    3120
tcagaggtag gattctgttt tatagtatag aatctacttt atcccttcct tttaatagtt    3180
cctttagacc tgtgaaattt cttcactaca tttaatagtt ctcctatttc ccgctccccc    3240
```

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atatcaattt tccttttgtc tccggggctg agtaaataaa catgttctgt cacaaatagc      3300
agcaccactt tggattgatt ttgctctcca ggacatcagc acatggccct gatcagcact      3360
accacatcca aacataagtc actgaaaaac acttaatatt tatgagttgg taatgacaag      3420
ggacattgta taaagtacta tttgctagat tcatgcctca aaagttatta taaacagacc      3480
tttattaaac acatcttgaa agatgtagaa gtccctctat agtctagtat agtttacaat      3540
agagttgtaa gaccaaaaaa aaaaaaaaaa aaaaa                                 3575
```

Homo sapiens IL-1 receptor accessory protein mRNA, complete cds.

```
tctcaaagga tgacacttct gtggtgtgta gtgagtctct acttttatgg aatcctgcaa      60
agtgatgcct cagaacgctg cgatgactgg ggactagaca ccatgaggca aatccaagtg     120
tttgaagatg agccagctcg catcaagtgc ccactctttg aacacttctt gaaattcaac     180
tacagcacag cccattcagc tggccttact ctgatctggt attggactag gcaggaccgg     240
gaccttgagg agccaattaa cttccgcctc cccgagaacc gcattagtaa ggagaaagat     300
gtgctgtggt tccggcccac tctcctcaat gacactggca actatacctg catgttaagg     360
aacactacat attgcagcaa agttgcattt cccttggaag ttgttcaaaa agacagctgt     420
ttcaattccc ccatgaaact cccagtgcat aaactgtata tagaatatgg cattcagagg     480
atcacttgtc caaatgtaga tggatatttt ccttccagtg tcaaaccgac tatcacttgg     540
tatatgggct gttataaaat acagaatttt aataatgtaa tacccgaagg tatgaacttg     600
agtttcctca ttgccttaat ttcaaataat ggaaattaca catgtgttgt tacatatcca     660
gaaaatggac gtacgtttca tctcaccagg actctgactg taaaggtagt aggctctcca     720
aaaaatgcag tgccccctgt gatccattca cctaatgatc atgtggtcta tgagaaagaa     780
ccaggagagg agctactcat tccctgtacg gtctatttta gttttctgat ggattctcgc     840
aatgaggttt ggtggaccat tgatggaaaa aaacctgatg acatcactat tgatgtcacc     900
attaacgaaa gtataagtca tagtagaaca gaagatgaaa caagaactca gattttgagc     960
atcaagaaag ttacctctga ggatctcaag cgcagctatg tctgtcatgc tagaagtgcc    1020
aaaggcgaag ttgccaaagc agccaaggtg aagcagaaag tgccagctcc aagatacaca    1080
gtggaactgg cttgtggttt tggagccaca gtcctgctag tggtgattct cattgttgtt    1140
taccatgttt actggctaga gatggtccta ttttaccggg ctcattttgg aacagatgaa    1200
accattttag atggaaaaga gtatgatatt tatgtatcct atgcaaggaa tgcggaagaa    1260
gaagaatttg tattactgac cctccgtgga gttttggaga atgaatttgg atacaagctg    1320
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attcagaaaa gcagacgcct cctggttgtt ctaagcccca actacgtgct ccagggaacc    1440
caagccctcc tggagctcaa ggctggccta gaaaatatgg cctctcgggg caacatcaac    1500
gtcattttag tacagtacaa agctgtgaag gaaacgaagg tgaaagagct gaagagggct    1560
aagacggtgc tcacggtcat taaatggaaa ggggaaaaat ccaagtatcc acagggcagg    1620
ttctggaagc agctgcaggt ggccatgcca gtgaagaaaa gtcccaggcg gtctagcagt    1680
gatgagcagg gcctctcgta ttcatctttg aaaaatgtat gaaaggaata atgaaaagga    1740
```

Homo sapiens clone FLB0708 mRNA sequence.

```
ccaagaggtg ggaacaatct aaatgtccaa cagatgaatg aatttttaaa aagtggtata      60
tatacataca ttgagatatt attcagcctt aaaaaagaag aaaaatcatg gccgggcgcg     120
gtggctcacg cctgtaatcc cagcactttg ggaggccgag acgagcgaat cacgaggtca     180
ggagatggag accatcctca ttaacatggt gaaactctgt ctctactaaa aatacaaaaa     240
aattagccgg gtttagtggt gggcgcctgt agtcccagct actcaggagg ctgaggcagg     300
agaatggcat gaacccggga ggcggagctt gcagtgagcc gagatcgcgc cactgcactc     360
cagcctgggc gacagagcga gactccgtct gaaaaaaaaa aaaagggaaa aatcctgcca     420
catgatatgg tatgggtcaa acttgaagac attaagctaa ataaaatgtc agtcacaaaa     480
agacaaatat tatatgattc cactcacatg aagtatcaag taatcaaact cacagaaaaa     540
gaaagtaaaa ttgtggttgc caatggttca gggtgaaaaa aagggagtta gtgtttaatg     600
ggtaagaggt tcagtttcgc aagacaaaag atttctggat atttgttgca caacagtatg     660
agtataatta atgctacaga actgttagaa aagagtctct ttcagattta gatactagaa     720
aatgtatgag taaaatacga tgtctgaaat ttgctttcaa ataatctgaa ggctggttgg     780
ggaagttgtt ggagtcatac atgaaataaa actggtatta gttgacaatc cttaaaactg     840
agtgggttta ttataccatt ctctctctac ttttgtgtat gtttgaaatt ttccatcata     900
aaggagtttt taaaaaccca acattatcaa aatgaaaaat aatcaataca agtgctggat     960
aagaaagtca aggaaatatc acagaatgta taatttaaaa gatttgctga ggtgtgtgta    1020
tcacctgagc tcaggagttc gagactagcc tggccaaaat ggcataaccc catctctaca    1080
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gagagcgaac agcggtgagt caggagcagg agcgtgcgga ccaaaaatcc tcagccctta    1800
cgaccgcgtc ttcctcaaaa aaaaa                                          1825
```